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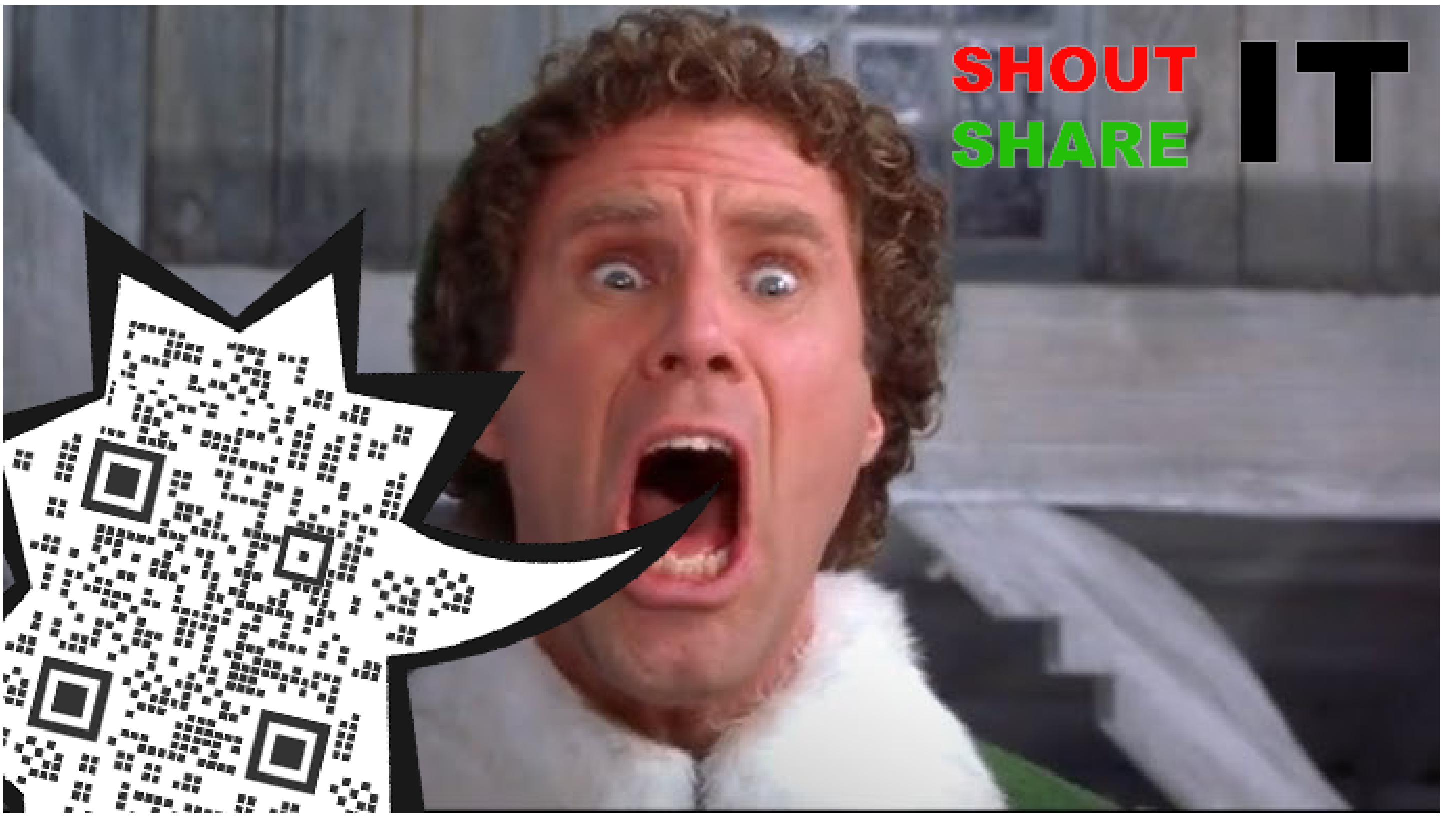
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Robber Flies of the World

The Genera of the Family Asilidae

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Robber Flies of the World:
The Genera of the Family Asilidae

Part 2

Subfamily Asilinae

This subfamily presents a conglomerate of many closely related groups and a very large number of species. Several dipterists have expressed doubt as to the wisdom of recognizing so many obviously closely related names. While the wisdom involved in their original creation may possibly be dubious, these names are not apt to be abandoned, because they serve a useful purpose. Fossil flies of this division date back to the Eocene, but numerous, closely related, present day groups suggest that many of them are of Recent origin. These flies are almost without exception active, agile and very successful, as indicated by their abundance.

I have found no satisfactory groupings into tribal relationships, except the segregation of the *Ommatius* Wiedemann group, distinguished by the pectinate arista and chitinous postmetacoxal arch. There are a number of other well marked groups, and certain trends may be observed, such as the groups *Promachus* Loew, *Nerax*, new genus, *Neolophonotus* Engel and *Dysmachus* Loew. The Australian "giant" species of *Blepharotes* Westwood are remarkable and doubtless archaic, yet it is difficult to find any adequate basis for separation into tribal status.

It is interesting to note the subsequent disposition of the 15 species placed in the genus *Asilus* by Linné. *Asilus crabroniformis* is the type of genus of *Asilus* and of the family Asilidae. *Asilus barbarus* is a recognizable species of this group from Europe; 3 others, *Asilus forcipatus*, *lusitanicus* and *maurus* are generally considered unrecognizable, at least with any certainty. Of the remainder, *Asilus germanicus* is the type of genus of *Pamponerus* Loew; *Asilus atrum* the type of *Andrenosoma* Rondani; and his *Asilus gibbosa* becomes the type of *Laphria* Meigen, with 3 other species, *Asilus gilva*, *flava*, and *marginata* all placed in the genus *Laphria*. The *Asilus teutonus* Linné, long considered the type of genus of *Dasypogon* Meigen, now becomes the type of *Molobratia* Hull; his *Asilus oelandica* is the type of *Dioctria* Meigen; and his *Asilus algirus* the type of *Apoclea* Macquart. The *Asilus aestuans* of Linné now becomes the type of *Nerax*, new genus (*Erax* of authors).

Tribe Ommatini

The members of this tribe are readily recognized by the closed marginal cell and the plumose style and the presence of a complete arch of chitin behind the posterior coxae. Such an arch of chitin is characteristic of the Atomosini in the subfamily of Laphriinae and in the genus *Rhabdogaster* Loew in the Dasypogoninae. While there are few genera included in this tribe, the one genus *Ommatius* Wiedemann is widely distributed and contains a very large number of species. They appear to be much more numerous in the Asian and Ethiopian regions and are plentiful in parts of Australia. Oddly, no species is known from Europe but one is described from the Island of St. Sebastian, others from Egypt and Arabia. Several species are known from the Nearctic and Neotropical regions.

KEY TO GENERA OF OMMATINI

1. Third antennal segment short, approximately as long as either first or second segment. Arista long. Plumes of the arista in two ranks or one 2

   Third antennal segment 2 to 6 times as long as the combined length of the first 2 segments, fusiformed and tapered. Arista short, the plumes concentrated irregularly about the short apical arista. Postmetasternum below and behind the posterior coxa completely chitinized. MICHOTAMIA Macquart

2. Hind femur below and near the base with a strong, rounded tooth. Third antennal segment as long as the combined length of the first 2 segments . . . MERODONTINA Enderlein

   No blunt, projecting tooth below the hind femur. Third antennal segment usually shorter 3

3. A tuft of stiff hairs placed medial to the halter and below the metanotal callosity. Aristal plumes in 1 row. Face broad, densely and bristly pilose, especially below. Discal cell narrowed apically, the second posterior cell widened basally. Scutellum with a pair of stout, long, marginal bristles. Female eighth sternite with a deep, medial cleft and conspicuous lateral process . . . . COPHINOPODA Hull

   No such tuft of hairs present beneath the metanotal callosity 4

4. Abdomen rather short, the distal part clublike, the base moderately constricted, and plumes of style in 2 ranks. EMPHYSOMERA Schiner

   Abdomen elongate and not clubbed or basally constricted . . 5

5. Plumes of style in 2 ranks. . . . OMMATIUS Wiedemann

   Plumes of style in one rank (subgenus of *Ommatius* Wiedemann) . . . . METOMMATIUS, new subgenus

Genus *Ommatius* Wiedemann

FIGURES 296, 297, 298, 306, 683, 684, 691, 1365, 1366, 1374, 1375, 2183, 2239

Ommatius Wiedemann, Diptera exotica, pt. 1, p. 213, 1821. Type of genus: *Asilus marginellus* Fabricius, 1781. Designated by Coquillett, 1910, the first of 3 species.

Ommatinus Becker, Ent. Mitt., vol. 14, p. 84, 1925. Type of genus: *Ommatius pinguis* Wulp, 1872, original designation. See comment under subgenus *Metommatius*, new subgenus.

Ommatius has one subgenus, *Metommatius*, new subgenus.

Small to quite large flies, easily recognized by the pectinate, bristly style of the third antennal segment. The plumes are distributed over the entire length of the style, and present in single or double rows. Length 6 to 30 mm.

Head, lateral aspect: The head is of medium length, the face is short, gradually becoming more prominent below but most of its greater length is due to the recession of the eyes. In some species there is a low, rounded, ventrally retreating eminence on the lower half of the face. The occiput is moderately prominent through the middle of the head; the lower fifth of the eye is often angularly recessive posteriorly. The occipital pile is stiff, abundant below, and sometimes rather fine, with slender bristles which begin near the middle of the head and become only moderately stout near the vertex. The upper occipital bristles are usually strongly proclinate, and sometimes divided on the upper fifth of the head into a group which turns downward and another which turns upward. The proboscis is of moderate length, stout and cylindrical, the base swollen and with a transverse, circular crease near the apex; the apex bears stout bristles; the sides at the base bear numerous, long hairs. Palpus of one segment with stiff, long pile and terminal bristles. The antenna is attached at the upper third of the head and is short; the third segment is short and pyriform, with a long, naked style bearing 1 or 2 rows of numerous plumes throughout its entire length, directed ventrally.

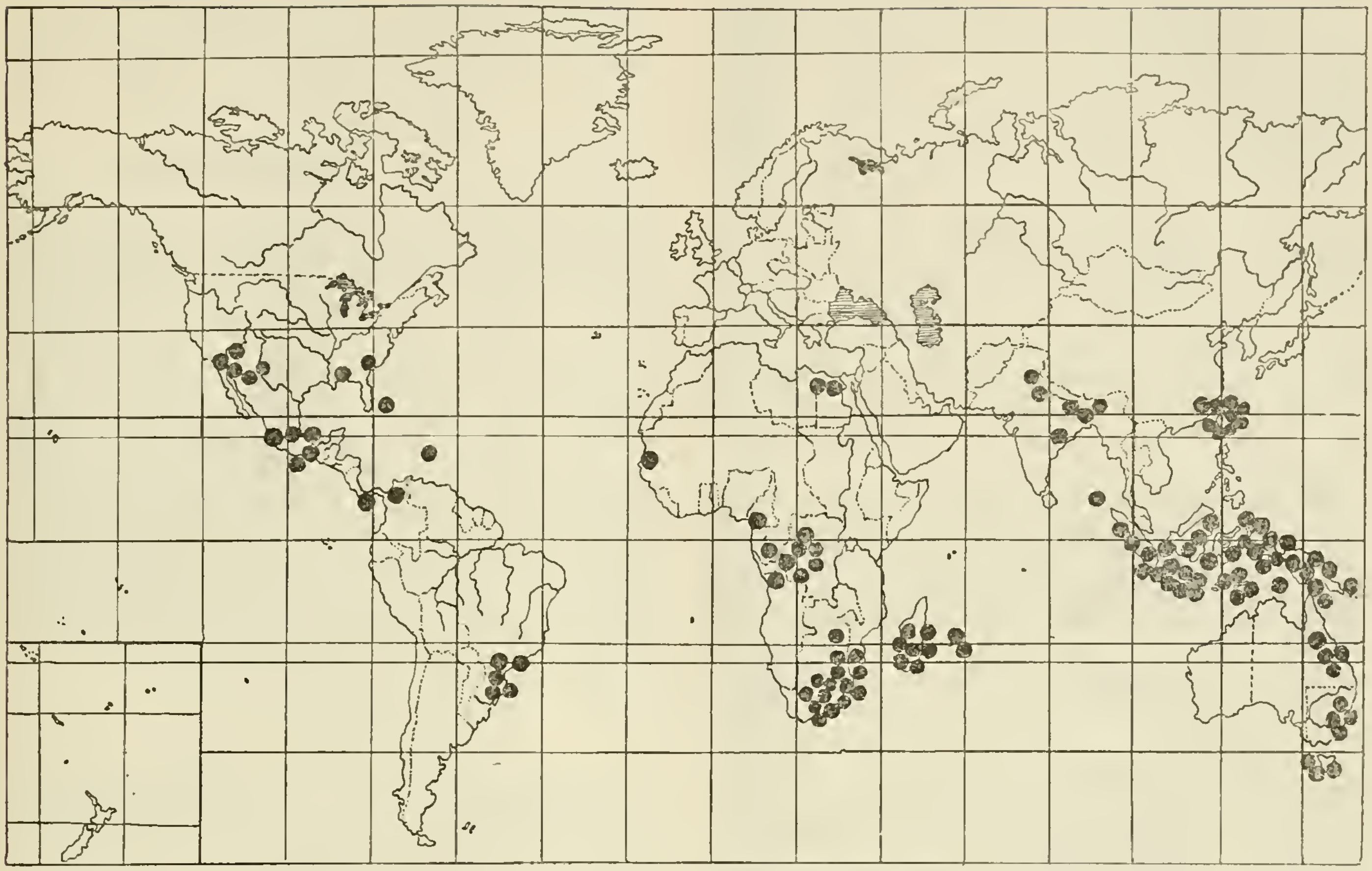
Head, anterior aspect: The face below the antenna is narrow and usually a seventh to a tenth the head width; it is rather rarely as wide as a fifth, and always strongly divergent below. Surface of face pubescent, with usually only a very few, scattered hairs on the middle and upper portion and more numerous hairs, sometimes of bristly character, above the epistoma. Middle and upper face sometimes without any bristles, more often with 1 or 2 vertical rows containing from 1 to 6 bristles, slender or stout. Usually there are 1 to 7 transverse rows of stout, long bristles on the recessive portion of the face above the subepistomal area. The subepistomal area forms the gently convex, longitudinal, oblique ridge on each side and is laterally pubescent; cheeks short. The front is short and pubescent, with parallel sides or slightly convergent; the vertex is generally more narrow, and deeply excavated; the ocellarium is large, with vertical sides, set quite far to the front, leaving the postvertex with a deeply channeled recess. Ocellarium with a few minute hairs and always a pair of stout, moderately long, postocellar bristles.

Thorax: The mesonotum is high and sometimes quite high, strongly sloping both anteriorly and posteriorly; the anterior portion is a little compressed laterally, the surface densely pubescent with scanty, fine, partly setate pile laterally and with a double acrostical row of setae and with dorsocentral bristles differentiated only on the posterior half. Humerus with long pile. The lateral complement of bristles consists of 2 notopleural, rather far apart, 1 or 2 postsupraalar, and 1 postalar; the thick, convex scutellum is usually without bristles but with a few, scattered, stiff hairs. The propleuron, mesopleuron and upper sternopleuron each bear scattered, fine pile; the pronotum sometimes with a few, stout bristles. Posthypopleuron and metapleuron with a row of fine, long, bristly hairs and weak or strong bristles. Pteropleuron with or without pile. Prosternum continuous and fused. Scutellum with or without a distinct impressed rim; the metanotal callosity is bare; the postmetacoxal area forms a wide, complete, chitinized arch behind the postcoxa.

Legs: The femora are stout but never strongly swollen; together with the dorsal surface of the tibiae they are densely, appressed setate. Bristles are moderately prominent and stout, attenuate and sharp and in some species replaced on the posterior and ventral surfaces of the middle and anterior tibiae by dense rows of long, bristly hairs. Hind femur with 4 to 6 ventrolateral bristles, as many or more ventromedial bristles; also with, or without a lateral row of 4 bristles; the subapex has 1 dorsolateral bristle and sometimes 1 apical dorsomedial bristle. Middle femur with 3 or 4 anterior bristles and 1 near the apex posteriorly. Anterior femur generally without bristles but often long, stiff or bristly hairs ventrally. Posterior tibia with 2 or 3 dorsolateral bristles and a like number of dorsomedial bristles and 1 ventrolateral bristle beyond the middle; apex with only 6 bristles. Anterior four tibiae usually with only 2 bristles in each row. Claws slender, strongly bent at the apex; the pulvilli large; the empodium reduced in length.

Wings: The marginal cell is closed and stalked; fourth posterior cell closed with a long stalk, the anal cell closed, the second basal cell ends in two veins which are fused beyond; the alula is large, the ambient vein complete. The fourth vein or first branch of the medius is drawn toward the apex of the wing leaving the second posterior cell rather wide on the margin. The posterior crossvein is longer than the upper section of the intercalary vein and tends to be drawn toward the base of the wing. The costa and the marginal and submarginal cells are often greatly widened, especially along a short portion in the middle of the wing. The costal vein may be very greatly thickened, with the widened portion of the wing strongly rippled.

Abdomen: The abdomen is cylindrical with nearly parallel sides; the first tergite is wider than the remainder and nearly as wide as the mesonotum. Pile of



Text-Figure 30.—Pattern of distribution of the genus *Ommatius* Wiedemann.

the abdomen scanty, appressed and setate, the surface pollinose; the first tergite has 4 or more lateral bristles on each side. Postlateral margins of remaining tergites with or without bristles; in the type of genus such bristles are scarcely present. Males with eight tergites, the last being quite short but not concealed. Females with eight, the last being half as long as the seventh. Male terminalia not rotate, and with well developed superior forceps, curved and apposed apically, which are with or without a dorsal notch. Gonopod shorter; the hypandrium is about a fourth the total length of the terminalia. Females with the terminalia quite short, the dorsal proctiger barely protruding beyond the eighth tergite.

This is a large and widely distributed genus particularly abundant in the Old World and South Pacific. It is peculiar because, although species are found in North America up to 45° north latitude, they appear to be completely absent from Europe; thus far only three species are known from the whole Palaearctic region and none are found south of Brazil.

Distribution: Nearctic: *Ommatius baboquivari* Wilcox (1936); *beameri* Wilcox (1936); *bromleyi* Pritchard (1935); *gemma* Brimley (1928); *maculatus* Banks (1911); *parvulus* Schaeffer (1916); *pretiosus* Banks (1911); *tibialis* Say (1823).

Neotropical: *Ommatius abana* Curran (1953); *aemula* Curran (1928); *apicalis* Schiner (1868); *barbiellinii* Curran (1934); *costatus* Rondani (1850); *erythropus* Schiner (1867); *exilis* Curran (1928); *fuscipennis* Bellardi (1862); *holosericeus* Schiner (1867); *marginellus* Fabricius (1781) [=*saccas* Walker (1855), *vitreus* Bigot (1875)]; *neotropicus* Curran (1928); *norma* Curran (1928); *orenoquensis* Bigot (1876); *parvus* Bigot (1875) [=*pumilus* Bellardi (1861)]; *peregrinus* Osten Sacken (1887); *pilosulus* Bigot (1875); *pumilus* Macquart (1847); *ruficauda* Curran (1928); *rufipes* Macquart (1846); *scopifer* Schiner (1868); *spatulatus* Curran (1928); *willistoni* Curran (1928).

Palaearctic: *Ommatius aegyptius* Efflatoun (1934); *ater* Bromley (1935); *striatus* Efflatoun (1934).

Ethiopian: *Ommatius albovittatus* Wiedemann (1824); *annulitarsis* Curran (1927); *atrogaster* Bigot (1859); *bevisi* Bromley (1947); *brevicornis* Curran (1927); *canicoxa* Speiser (1913); *chiastoneurus* Speiser (1910); *cingulatus* Bromley (1936); *coarctatus* Macquart (1855); *dasypogon* Oldroyd (1939); *erythropy-*

gus Curran (1927); *fallax* Bigot (1875); *fanovana* Bromley (1947); *flavipes* Loew (1857); *flavipes* Macquart (1834); *fuscovittatus* Ricardo (1900); *imperator* Oldroyd (1939); *jaculator* Walker (1851); *lambertoni* Bromley (1942); *longiforceps* Bromley (1942); *macquarti* Bezzi (1908); *macroscelis* Bezzi (1906); *madagascariensis* Macqart (1838); *mayottae* Bigot (1859); *minutus* Bromley (1936); *munroi* Bromley (1936); *neglectus* Bromley (1936); *neotenellus* Bromley (1936); *ornatipes* Engel (1929); *pallidapex* Bigot (1891); *pallidicoxa* Curran (1927); *pulchellus* Bromley (1936); *pulchripes* Bigot (1859); *pygmaeus* Wiedmann (1824); *senex* Bromley (1936); *tarchetius* Walker (1849); *tenellus* Wulp (1899); *terminalis* Bromley (1936); *tibialis* Ricardo (1903); *tinctipennis* Curran (1927); *variabilis* Engel (1929); *varipes* Curran (1927); *venator* Speiser (1910); *vittatus* Curran (1927).

Oriental: *Ommatius argentatus* de Meijere (1911); *argyrochirus* Wulp (1872); *calvus* de Meijere (1911); *carmichaeli* Bromley (1935); *compactus* Becker (1925); *despectus* Wulp (1872); *dilatipennis* Wulp (1872); *discalis* Walker (1861); *dispar* Macquart (1848); *flavipyga* Becker (1925); *frauenfeldi* Schiner (1868); *gracilis* Walker (1856); *griseipennis* Becker (1925); *hecale* Walker (1856); *impeditus* Wulp (1872); *insularis* Wulp (1872); *kambangensis* de Meijere (1914); *leucopogon* Wiedemann (1824); *lividipes* Bigot (1890); *major* Becker (1925); *medius* Becker (1925); *nanus* Walker (1851); *nigrifemorata* Bromley (1935); *nigripes* Becker (1925); *pauper* Becker (1925); *pictipennis* Bigot (1875); *pinguis* Wulp (1872); *retrahens* Walker (1859); *rubicundus* Wulp (1872); *rufipes* Macquart (1838); *signinipes* Rondani (1875); *similis* Becker (1925); *strigatipes* de Meijere (1911); *subgracilis* Bromley (1935); *taeniomerus* Rondani (1875); *torulosus* Becker (1925); *unicolor* Becker (1925).

Australian: *Ommatius angustiventris* Macquart (1849); *annulatus* Bigot (1877); *aruensis* Wulp (1872); *bacchoides* Walker (1864); *bisetus* de Meijere (1913); *canus* Walker (1865); *cnemidius* Bigot (1877); *coraebus* Walker (1849); *curvipes* de Meijere (1915); *dimidiatus* Macquart (1849); *distinctus* Ricardo (1918); *excurrens* Wulp (1872); *fimbriatus* Hardy (1948) [=*queenslandi* Malloch (1929)]; *flavicaudus* Malloch (1929); *fulvimanus* Wulp (1872); *fusiformis* Becker (1926); *hyalipennis* Wulp (1898); *infirmus* Wulp (1872); *invehens* Walker (1864); *jalmus* Walker (1849); *lema* Walker (1849); *livis* White (1917); *lucifer* Walker (1859); *mackayi* Ricardo (1913); *minimus* Doleschall (1857); *minor* Doleschall (1857) [=*noctifer* Walker (1859), *spinibarbis* Wulp (1872)]; *nanus* Walker (1861); *nigripes* de Meijere (1913); *obscurus* White (1917); *ornatipes* Becker (1926); *pilosus* White (1917); *queenslandi* Ricardo (1913); *schlegelii* Wulp (1884); *serenus* Wulp (1872); *strictus* Walker (1860); *suffusus* Wulp (1872); *van-kampeni* de Meijere (1915); *vitticrus* Bigot (1876).

Oceania: *Ommatius curvimargo* Bezzi (1928); *strigicosta* Bezzi (1928); *varitibiatus* Ricardo (1929).

Country unknown: *Ommatius ademon* Walker (1849); *amyclaeus* Walker (1849); *papus* Walker (1849); *pera* Walker (1849); *palutius* Walker (1849).

Metommatius, new subgenus

Type of subgenus: *Ommatius aegyptius* Efflatoun, 1934.

In erecting the genus *Ommatinus*, Becker (1925), apparently went under the supposition that *Asilus chinensis* Fabricius (1794) was the type of genus of *Ommatius* Wiedemann; whereas, Coquillett (1910) designated *Asilus marginellus* Fabricius (1781), a West Indian species, as the type of genus of *Ommatius*. This species *Ommatius marginellus* has the plumes of the artista in two ranks, thus invalidating *Ommatinus* Becker, which was founded on *Ommatius pinguis* Wulp. Apparently, a few species of *Ommatius* have the plumes in one rank; all American and Australian species which I have seen have the plumes in two well formed ranks. I propose the subgeneric name *Metommatius* for species with plumes in one rank. The extent of the face in *Ommatius* seems to be highly variable and to have little of value for purposes of differentiation.

Genus *Merodontina* Enderlein

Merodontina Enderlein, Zool. Anzeiger, vol. 44, p. 262, 1914. Type of genus: *Merodontina sikkimensis* Enderlein, 1914, by original designation.

The following is Enderlein's description in translation:

> Male. Genus of the Asilinae. Antennal bristle (style) long plumose. Hind femur somewhat thickened and below near the base with a strong, rounded tooth. Third antennal segment as long as both the basal segments together. This genus is distinguished from *Ommatius* Wiedemann, 1821, through the toothed hind femur.

Distribution: Palaearctic: *Merodontina sikkimensis* Enderlein (1914).

This species seems to be in the southern boundary of the Palaearctic region in the most northern part of India.

Genus *Emphysomera* Schiner

FIGURES 304, 752, 1362, 1371

Emphysomera Schiner, Verh. zool.-bot. Ges. Wien, vol. 16, p. 845, 1866. Type of genus: *Ommatius conopsoides* Wiedemann, 1828, by original designation.

Small flies, separated from *Ommatius* Wiedemann chiefly on the basis of the clavate abdomen. This group of flies is found largely in southern Asia, with two species in Ethiopia. Length 8 to 12 mm.

Head, lateral aspect: The head is of medium length, the occiput short, scarcely visible on the upper half, with the upper bristles strong and proclinate. The face is quite short, scarcely visible in profile even below. The proboscis is short, strongly swollen at the base, cylindrical, bluntly pointed but not extending beyond the face. It extends obliquely forward and bears a lateral, subapical crease. The antenna is similar to *Ommatius*, the plumes of the style are disposed in 2 rows throughout the length of the style.

Head, anterior aspect: The face is narrow, pubescent, about a ninth the head width, and very little divergent below. It bears some scattered, long pile, a double, vertical row of long, slender, often black bristles, each row containing about 5 elements, and also slender bristles above the unusually small subepistoma. Cheeks absent in lateral aspect. The front is widened in the middle, the vertex also deeply excavated. Postocellar bristles stout, upper occipital bristles proclinate.

Thorax: The thorax is similar to that of *Ommatius*; the scutellum is only moderately thick and convex with impressed rim and a pair of long, stout bristles. Bristles are long and stout and consist of: 2 notopleural, 2 postsupraalar, 2 postalar, no humeral bristles. There are an acrostical row of hairs, presutural dorsocentral hairs, and postsutural dorsocentral bristles. Pteropleuron with a long, conspicuous, stout bristle on the posterior section but only shorter, bristly hairs anteriorly. Prosternum fused with the posterolateral part narrowed; metanotal callosity bare; postmetacoxal area with a long, chitinous arch. Anterior basalare with a slender bristle.

Legs: All the femora are a little swollen; the bristles are prominent but attenuate, and sometimes tuberculate at base. The hind femur bears a stout bristle laterally on the apical and basal third; 1 bristle dorsolaterally at the subapex; 8 ventrolaterally and sometimes 3 or 4 longer, slender bristles ventrally on the basal half, and weak bristly hairs or slender bristles ventromedially on the distal part. Ventral surface of hind femur plane. Bristles of the legs otherwise similar to *Ommatius*. The middle basitarsus is somewhat shorter than in *Ommatius*. Claws and pulvilli similar to *Ommatius*.

Wings: The wings are quite similar to *Ommatius*.

Abdomen: The abdomen is broad and spatulate distally and narrowest at the end of the second tergite; the distal part of the abdomen is sometimes a little wider than the thorax. The pile is abundant, appressed and setate, but long and fine, and also scanty, on the sides of the first and second tergites. The first tergite bears 3 or 4 pairs of long, slender bristles. Female with 8 tergites, the eighth from a third to a half as long as the seventh and with the ninth tergite projecting medially as a short lip. The halves of the dorsal proctiger, each somewhat triangular, are fused in the middle and rounded laterally. Sides of the seventh and eighth tergites sometimes with stout, posterior bristles. No males seen.

Distribution: Neotropical: *Emphysomera pulchra* Engel (1885).

Ethiopian: *Emphysomera auribarbis* Wiedemann (1828); *hyacinthina* Bigot (1876).

Oriental: *Emphysomera aequalis* Becker (1925); *aliena* Osten Sacken (1882); *biseriata* Becker (1925); *conopsoides* Wiedemann (1828); *femorata* Bigot (1875); *hageni* de Meijere (1911); *nigra* Schiner (1868); *nigrifemorata* Bigot (1878); *peregrina* Wulp (1872); *spathulata* Doleschall (1858) [=*platymelas* Walker (1862)].

Genus *Stenommatius* Matsumura

Stenommatius Matsumura, Thousand Insects of Japan, additamenta 2, p. 335, 1916. Type of genus: *Stenommatius formosanus* Matsumura, 1916, by monotypy.

The genus is stated by Matsumura to resemble *Ommatius* Wiedemann but differs in the particulars noted in his description:

> Body much narrower. Face in the middle with 6 bristles in 2 rows. Mystax much less than that of *Ommatius*. Ocellar region with 2 proclinate bristles. Thorax in the middle with three longitudinal rows of bristles. Femora without bristles, only the hind femur having a preapical bristle, tibiae at the apical halves with long bristles, the hind tibia being provided with a prebasal bristle. Pulvilli much narrower, being broader towards the apices.

Distribution: Oriental: *Stenommatius formosanus* Matsumura (1916).

Genus *Cophinopoda* Hull

FIGURES 295, 686, 1363, 1372, 2282, 2315, 2355, 2453

Cophinopoda Hull, Proc. Ent. Soc. Washington, vol. 60, p. 251, 1958. Type of genus: *Asilus chinensis* Fabricius, 1794. Designated by Hull, 1958.

Flies that resemble large species of *Ommatius* Wiedemann. They are distinguished by the wide, more prominent face, densely beset with long, bristly pile over the middle, and on the cheeks, the less pronounced mesonotum, the strong bristles of the scutellum, the ventral prongs of the superior male forceps and the process of the hypandrium. They are more definitively characterized by a patch of hairs immediately above the halteral base. Length 30 mm.

Head, lateral aspect: The head is similar to that of *Ommatius*, except as mentioned above. The occiput is moderately prominent throughout; the long pile on the ventral half is quite dense, the upper bristles of the occiput are short and stout and confined to the upper posterior corner of the eye. The proboscis is longer than the face, robust, with subapical, lateral creases.

Thorax: The mesonotum is not so high as in most species of *Ommatius*. The surface is pollinose and broadly covered by numerous, suberect setae, especially anteriorly and it is without differentiated acrostical elements; dorsocentral bristles appear only posteriorly where there are 2 exceptionally stout pairs. Lateral bristles consist of 2 close-set notopleural, 1 supraalar, 1 postalar, and 1 pair of scutellar bristles, all stout and long. The scutellum is less thick and with more or less impressed rim, pollinose and with numerous, long, stiff, surface hairs. Base of scutellum on each side with a tuft of pile, absent in *Ommatius;* there is also present a tuft of pile immediately below the halteral base, absent in *Ommatius.* Pleuron similar to *Ommatius;* the posterior basalare bears 1 or 2 stout bristles and other stiff bristly pile. The postmetacoxal area has a complete chitinized arch. Prosternum dissociated.

Legs: The legs are similar to those of *Ommatius* in the vestiture and the number of bristle elements in the bristle rows. The bristles however, are remarkably stout, blunt, almost spikelike; the hind femur has 6 dorsolateral, 6 dorsomedial, 1 pair of bristles dorsally at the subapex, 7 ventrolateral and 7 ventromedial bristles. Tibial bristles of more reduced quantity. Claws and pulvilli similar to *Ommatius.*

Wings: The wings differ in 2 features from those of *Ommatius;* the posterior branch of the third vein ends almost at the wing apex and both the first and second posterior cells are wide at the margin. The second posterior cell is strongly widened at the base and twice as wide as the end of the discal cell. The lower end vein of the discal cell is nearly 4 times as long as the oblique, posterior crossvein.

Abdomen: The abdomen is stout, especially at the base, which is nearly as wide as the mesonotum; it is distinctly though gently tapered; the pile is short and appressed setate. The sides of the first tergite bear 7 stout bristles. Males with eight well developed tergites; the eighth laterally is at least two-thirds as long as the seventh, but medially it has a crescentic excision, which is filled out by membrane. Male terminalia large, broad and clublike. The superior forceps with a distilateral, flattened, winglike process curved slightly toward the middle and bearing a long, slender, ventral, sigmoid, apically hooked process. Gonopod is as long as the superior forceps; the hypandrium has a long, flattened, medial process, which bears a terminal brush of long pile. Female terminalia consist of a flat, quadrangular plate with medial crease; beside it, and extending a little beyond there is a posterolateral corner extension of the eighth sternite, which consists of a sharply bladed, sharply pointed, vertical, knifelike process. Behind this process there are 3 or 4 stout, long, spikelike bristles.

I am indebted to Mr. Oldroyd for calling to my attention the feature of the unique terminalia. Malloch (1928) noted the tuft of stiff hairs above the base of the humeri.

Distribution: Oriental: *Cophinopoda chinensis* Fabricius (1794) [=*androcles* Walker (1849), *consinnens* Wulp (1872), *coryphe* Walker (1849), *flavescens* Fabricius (1805), *fulvidus* Wiedemann (1821), *fulvus* Doleschall (1857), *garnotii* Guérin (1830), *inextricatus* Walker (1862), *pennus* Walker (1849)].

I have seen an undescribed species from Madagascar, which belongs here and is quite separable from individuals of *Cophinopoda chinensis* taken in eastern Asia; however, it is possible that one of the names now in synonymy under *Cophinopoda chinensis* may apply to it. The genus has, under this name, been recorded from Sokotra.

Genus *Michotamia* Macquart

FIGURES 305, 692, 1364, 1373, 2280, 2336, 2350

Michotamia Macquart, Diptères exotiques, vol. 1, pt. 2, p. 72, 1838. Type of genus: *Michotamia analis* Macquart, 1838, by monotypy.

Allocotosia Schiner, Verh. zool.-bot. Ges. Wien, vol. 16, p. 845, 1866. Type of genus: *Asilus aurata* Fabricius, 1794, by original designation.

Allocotasia Wulp, Tijdschr. Ent., ser. 2, vol. 7, p. 249, 1872, *lapsus.*

Flies of medium size, characterized by the slender, tapered abdomen, the extremely scanty, short pile of the pollinose mesonotum and pleuron, and the prominent bristles of the face. It is at once distinguished by the tuft of long, ventral and apical hairs borne on the antennal style. The long, attenuate third antennal segment, short style and apical tuft of chiefly ventral hairs separate the genus from *Ommatius* Wiedemann. Length 15 to 20 mm.

Head, lateral aspect: The head of medium length, the face plane with the eye margin on the upper part, becoming moderately extended below but never conspicuous. The face profile is either plane or barely convex. Cheeks moderately extended below the eye. The occiput is only moderate in extent, receding for some distance away from the eye margin, the lower half bears rather dense, somewhat matted pile from coarse to fine in character. The upper half has bristles which begin at the middle of the head and on the upper fourth consist of a row of 9 quite stout, pale or black bristles. Proboscis directed obliquely downward and only moderately long; the apical fourth is reduced in width and the proboscis is somewhat tapered, beginning at the basal third. Apex bluntly rounded, with minute hairs dorsally at the apex and between the two halves. On the palpus there appears to be a distinct, short, excavated, ventrally pilose, distally constricted remnant of the basal segment. The ultimate segment is long, cylindrical, moderately stout with unusually dense, rather fine pile on all sides and several long, stout bristles at the apex. The antenna is attached at the upper fourth of the head; the first two segments are quite short, each about as long as wide or barely longer. The third segment is long and at the base as wide as the second segment and gradually tapered from base to apex; the apex becomes quite narrow. This segment may be nearly three times the combined length of the first two; it bears a short style with 10 to 12 ventral plumes or hairs in two rows or sometimes an apical tuft of hairs. Whole antenna about as long as head. First two segments with numerous setae above and below.

Head, anterior aspect: The head width is about 1⅓ times the head height. Face below antenna a fifth the head width or less and distinctly widened below. Face with a number of long, coarse, bristly hairs beginning beneath the antenna and situated chiefly laterally. Down the middle of the face, beginning a little lower than the hairs, are 2 or 3 rows of quite stout, pale bristles; these bristles forming a medial triangular patch of considerably longer and even stouter elements situated on the lower third of the face. Subepistoma rather large, oblique, concave, and laterally with some pile. Face cover consists of pubescence. Front slightly widened, small in extent, depressed and pollinose with a dense appressed tuft of coarse pile laterally. Vertex distinctly narrowed but little excavated. Ocellarium small, of medium height but steep with 1 or 2 minute hairs, some pollen and behind the ocelli a pair of short, rather stout bristles curved forward.

Thorax: The mesonotum is moderately convex, more abrupt anteriorly, pollinose but with very little pile. There is some minute, acrostical pubescence and anteriorly only some minute acrostical setae. Dorsocentral hairs seem to be almost but not quite absent. They are very fine; behind the suture on each side is a row of 9 slightly longer, yet still fine, short hairs. Lateral bristles well developed, long and stout, consisting of 2 notopleural, 1 supraalar, 1 on postalar callosity. Scutellum gently convex, densely pollinose with some minute basal hairs and no bristles. Humerus with scattered long hairs anteriorly. Metanotal callosity pollinose only. Pronotum with a few, stout bristles. Remainder of propleuron with scattered, fine hairs. Whole pleuron densely covered with pale pollen, sometimes golden in color. Posterior mesopleuron with 2 bristles; posterior basalare with 3 bristles; pteropleuron with 1 bristle; metapleuron with 4 or 5 longer bristles. Prosternum fully dissociated. Postmetacoxal area completely chitinized behind the coxa. Lateral metasternum with some pile.

Legs: The hind legs are a little elongate, all the femora distinctly stout, perhaps a little swollen. Bristles are everywhere stout, only moderately long, and reduced in number on the femora. The legs bear rather numerous, subappressed, sharp setae; these are completely wanting on the ventral surface of the hind femur and posterior surface of other femora. Hind femur a little narrowed towards the base; the bristles consist of 3 lateral elements and 1 spikelike, dorsomedial subapical bristle but curiously, none on the outside of the subapex. Hind tibia with a basal and a postmedian dorsolateral bristle, 3 dorsomedial along the middle, 2 ventrolateral beyond the middle, and 1 ventromedial bristle on the basal half. Apex with 6 ventral and 1 dorsolateral bristle. Hind basitarsus stout, a little longer than the next three segments, which are quite short. Middle femur with a basal and distal anterior bristle and a stout, posterior apical bristle. Middle tibia with 2 dorsolateral bristles beyond the middle, a basal anteroventral, 2 posteroventral on the basal half and 2 quite prominent, ventral bristles on the distal half. Anterior femur with 4 weak anterior bristles, 1 stout median posterodorsal and 2 or 3 weak ventral bristles; its tibia has 1 conspicuous, basal posteroventral and beyond this 2 quite stout, long, posteroventral bristles. Anterior basitarsus no longer than the next two segments. Claws unusually stout, moderately sharp, bent chiefly from the middle. Pulvilli quite large, truncate; the empodium strongly swollen at base.

Wings: The wings are generally tinged with brown or yellow. The marginal cell is closed and stalked; anterior branch of third vein sinuous. Second submarginal cell rather wide at base but arched. Second posterior cell considerably but gradually widened anteriorly beyond the discal cell. First posterior cell open maximally; medial crossvein quite long, drawn backward; the upper anterior intercalary vein tends to be shortened. Fourth posterior cell closed, usually with a rather short stalk. Posterior crossvein wanting, with the end veins of the second basal cell often fused. Anal cell closed and stalked. Wing densely villose. Alula prominent; ambient vein complete.

Abdomen: The abdomen is elongate and often somewhat clavate or club-shaped. Pile is fine, appressed, setate. Sides of first tergite with 5 quite stout bristles and some slender, bristly hairs. Sides of second tergite behind with a few, bristly hairs. Males with eight tergites, the eighth tergite short, about a third the length of the seventh, and the seventh tergite half as long as the sixth or slightly longer. Female with eight tergites, the eighth somewhat shorter than the seventh. Male terminalia not rotate, the epandrium cleft into superior forceps, the halves rather closely adjacent basally, divergent posteriorly, enclosing the broad, spatulate proctiger. Laterally the forceps are broad, conspicuous, obtuse and basally convex. Hypandrium short, very densely beset with stiff, posteriorly directed bristles. Gonopod comparatively small but with a moderately long, distal process. Penis guide curved upward, exposed and ending a little beyond the proctiger. Female with the ovipositor consisting of a short, dorsally triangular protrusion, undivided in the middle but perhaps creased. The ventral portion extends barely beyond it.

Distribution: Ethiopian: *Michotamia cothurnata* Bigot (1875).

Oriental: *Michotamia analis* Macquart (1838); *annulata* de Meijere (1911); *annulata* Bigot (1878); *compedita* Wiedemann (1828); *minor* de Meijere (1911); *praeacuta* Wulp (1898); *triangulum* Wulp (1872).

Australian: *Michotamia aurata* Fabricius (1794); *scitula* Walker (1860); *vulpina* Bigot (1875).

Country unknown: *Michotamia setitarsata* Schiner (1867).

Tribe Asilini

In the Asilini many genera have pile or bristles on the lateral slopes of the metanotum; others have it bare. Likewise the genera fall into 2 groups with respect to the scutellum, which may be flattened with subapical crease, or tumid and swollen without impressed margin. Genera like *Glaphyropyga* Schiner and *Opopotes* Hull, which have the metanotum bare and the scutellum thin, are reckoned to be generalized over those which have bristly pile or a tumid scutellum, or both as in *Porasilus* Curran. The combination of bristly metanotum and flattened scutellum predominates in the Old World; the combination of bare metanotum and tumid scutellum predominates in the New World. It is possible that the genera consisting of *Nerax*, new genus and its allies, which appear to be restricted to the New World, and those related to *Promachus* Loew, which, except *Mallophora* Macquart, are common to both hemispheres, should each be segregated into tribes.

The *Neolophonotus* Engel group contains 10 genera, which are characteristic of the South African region. All have the metanotal callosities bare. They tend to have a gently arched or convex face without a defined gibbosity and with extensive, long, stiff, facial pile, which occasionally forms a facial mane. In other forms a mesonotal mane is common. Of these genera *Neolophonotus* Engel, *Neodasophrys* Ricardo, *Hippomachus* Engel, *Lophybus* Engel, *Megadrillus* Bigot and *Lophopeltis* Engel are readily characterized by the long, medial crossvein or lower component of the veins ending the discal cell. On the other hand, *Synolcus* Loew, *Dasophrys* Loew and the allied *Hobbyus* Bromley all tend to have this component quite short and the discal cell strongly occluded and in the males an expanded costa.

KEY TO GENERA OF ASILINI

1. Three submarginal cells 2

Two submarginal cells, with or without appendiculate vein from base of the second submarginal cell 14

2(1). Apex of second submarginal cell strongly flared; anterior branch of third vein ends at or before wing apex; posterior branch ends far to the rear of wing apex. First submarginal cell and basal part of second submarginal cell often greatly narrowed. Claws acute 3

Apex of second submarginal cell not flared and these cells never greatly narrowed 4

3(2). First submarginal cell and basal part of second submarginal cell greatly narrowed, and radial crossvein lies near the middle of first submarginal cell, or the cell placed in front of this crossvein (*Promachus* Loew group) 8

First submarginal cell and basal part of second submarginal cell not greatly narrowed; radial crossvein occupies a more basal position (*Alcimus* Loew group) 5

4(2). Posterior branch of third vein ends shortly below wing apex. Claws blunt. Eichoichemus Bigot

Posterior branch of third vein ends distinctly above wing apex. Claws acute. Efferia Coquillett

5(3). First posterior cell closed and stalked; ocelli often reduced or concealed by pubescence. Apoclea Macquart

First posterior cell open 6

6(5). Basal part of lower fork of second vein (R_3) distinctly longer than radial crossvein (R_4). This radial crossvein generally arises near or just before end of discal cell 7

Basal part of lower fork of second vein (R_4) is quite short, as long or barely longer than radial crossvein (R_4). Anterior branch of third vein arises between anterior crossvein and discal-cell end veins. Tenth female tergite with a pair of long spines and short ones. Abdomen much longer than wings; slender and tapered. Alcimus Loew

7(6). Three submarginal cells uniformly present. Third antennal segment elongate, several times as long as wide. Superior forceps elongate, high, laterally convex and tending to enclose the inferior surface; other elements short or reduced. Ovipositor elongate, cylindrical and conical on the distal part; tenth segment with numerous, short spines and often a pair of apical, longer spines. Philodicus Loew

Usually only 2 submarginal cells present, with a broken spur-vein; 3 rarely present; spur rarely absent. Third antennal segment shorter, or, if elongate, the base swollen, the apex strongly attenuate. Terminalia rather similar to *Philodicus* Loew, ovipositoral spines larger and more prominent . . . . Apoclea Macquart

8(3). Claws acute. Face without extensive gibbosity. (*Promachus* Loew group) 9

Claws obtuse 12

9(8). Apex of antennal style dilate and spearlike. Philomachus Karsch

Apex of antennal style slender and pointed . 10

10(9). Ovipositor short, the 2 halves of tenth tergite with distal extremities pointed and divergent. Enagaedium Engel

Ovipositor longer, not divergent at apex . . 11

11(10). Ovipositor of medium size, incorporating the last 3 segments . . . . Promachus Loew

Ovipositor very long, incorporating the last 5 segments . . . . Trypanoides Becker

12(8). Ovipositor of female and terminalia of male quite small. Robust and pilose flies with the abdomen short and stout. Wings distinctly longer than abdomen. Face and front of moderate width. Tarsal segments greatly shortened 13

Ovipositor elongate, incorporating 4 or 5 segments; terminalia larger. Abdomen not of the short and robust pattern. Wings as long as abdomen or shorter. Face and front narrow. . . . Promachina Bromley

13(12). Face usually strongly gibbous ventrally. Pile scanty and loosely scattered on upper face . . . . Mallophora Macquart

Face gently convex, uniformly pilose, the oral margin with bristles. First posterior cell open, or closed and stalked . Megaphorus Macquart

14(1). Base of second submarginal cell with an appendiculate vein (remains of vein R_3) 15

Base of second submarginal cell, R_4, never with spur vein 23

15(14). Slopes of metanotal callosity bristly pilose; face strongly gibbous below 16

Slopes of this callosity bare 17

16(15). First posterior cell extremely long, narrow, concave anteriorly. Convex posteriorly, the apex likewise narrow . . . Nyssomyia, new genus

First posterior cell dilated and flared apically; first branch of the fourth vein meets wing margin far to the rear of wing apex . . Porasilus Curran

17(15). Second submarginal cell strongly flared apically, so that first branch of the fourth vein meets wing far to the rear of wing apex; apex of arista slender 18

Second submarginal cell narrow apically. First branch of fourth vein ends near wing apex; male terminalia very large 19

18(17). Front and vertex strongly convergent above. Base of antennal arista with a microsegment. End veins of second basal cell never fused beyond. Face prominent below but scarcely gibbous; mystax exceedingly stout. Tergal bristles confined to first segment. Base of second submarginal cell narrowed. Anacinaces Enderlein

Front and face not distinctly convergent above. Antennal microsegment absent. Mystax slender. Pile of upper face abundant, coarse, often appressed. Female ovipositor with prominent spines. Tergal bristles present on several tergites. First posterior cell usually open; sometimes closed . . . . Apoclea Macquart

19(17). Anterior branch of fourth vein ends before, at, or slightly beyond apex of wing. Arista simple at apex; never with spatulate or distinctly widened tip 20

Anterior branch of fourth vein ends quite distinctly beyond apex of wing. Scutellum inflated, without crease; metanotal slopes without pile. Arista with apex slightly flattened or widened at apex, or in some cases strongly widened and spatulate at apex . . . . Lecania Macquart

20(19). Marginal and submarginal cells closed. Diplosynapsis Enderlein

Only the marginal cell closed 21

21(20). Posterior branch of third vein and anterior branch of fourth vein each end close to wing apex, one above, the other below and nearly equally distant from apex. Face only moderately produced below. Terminalia with superior forceps apically widened, convex, curved inward toward the middle and enclosing a space. Female with ovipositor short; eighth segment conical or cylindrical . . . . Eicherax Bigot

Posterior branch of third vein meets at or above wing apex and always far from anterior branch of fourth vein. Male terminalia without dorsal, enclosed space 22

22(21). Male terminalia with a deep, lateral cleft dividing each half of superior forceps into upper and lower prongs. Flies with robust, strongly tapered abdomen . Cratolestes, new genus

Male terminalia large, elongate, uncleft. More slender flies; females with long, flattened ovipositor . . . . Nerax, new genus

23(14). Third antennal segment short, high, 3 or more times height of the second segment. Males with a flared and greatly expanded microsegment . . . . Cerozodus Bigot

Third antennal segment and microsegment, if present normal. 24

24(23). The apex of style or arista dilated and thickened, or spearlike and flared in both sexes, less so in females. Scutellum puffed, without crease, without bristles. Metanotal callosity with pollen only 25

Style of third antennal segment simple at apex; with few exceptions, the scutellum is marked by a distinct, apical crease 26

25(24). Aristal apex strongly flared. . Lecania Macquart

Arista either slightly or sometimes strongly thickened distally. Male terminalia sometimes greatly enlarged; female ovipositor elongate, laterally compressed on last 3 segments (subgenus of *Lecania*). . . . Pachychaeta Bigot

26(24). Posterior branch of third vein ends at or behind wing apex 44

Posterior branch of third vein ends distinctly above wing apex 27

27(26). Lateral metanotal callosity bristly pilose. Second submarginal cell exceptionally wide at base or middle, strongly expanded anterobasally and posterobasally and several times wider than opposite portion of first submarginal cell; apex narrow, ambient vein often absent or depauperate 28

Lateral metanotal callosity bare. Second submarginal cell not exceptionally expanded; ambient vien present 31

28(27). Anterior basitarsus exceptionally long, 2 or more times as long as succeeding segments. Ambient vein present . . . . . . Eccoptopus Loew

Anterior basitarsus of ordinary length . . . 29

29(28). Short, robust flies; wings reach approximately to apex of the abdomen; length 25–30 mm. . 30

Elongate, strongly tapered, large or very large flies; abdomen extends beyond apex of wings. Female terminalia densely beset with short, stout spines. Vertical recess deep; vertex convergent. Ambient vein absent in some species and posterior veins often evanescent. Satanas Jacobson

30(29). Ambient vein absent, posterior veins evanescent; wings short and broad. Blue-black to violet-black flies, including wing . Polysarca Schiner

Ambient vein present . Polysarcodes Paramonov

31(27). Third antennal segment 6 to 8 times as long as wide; style no longer than, and sometimes shorter than, second segment; female terminalia quite elongate and cylindrical, eighth tergite especially long . . . . . Apotinocerus Hull

Third antennal segment short; style long . . . 32

32(31). Males 33

Females 39

33(32). Third vein branches before end of discal cell. Face below gibbosity and lower occiput with long, dense pile. Anterior crossvein oblique. Wings reach or extend beyong tip of abdomen. Large flies of usually short, robust abdomen. Eccritosia Schiner

Third vein branches beyond end of discal cell . 34

34(33). Face with a shallow concavity below antenna. Costa or marginal cell never expanded. Abdomen reaches beyond tip of wings. Large or very large flies with elongate, tapered abdomen . . . . . Proctacanthus Macquart

Face very stongly produced, with a deep, horizontal ledge above gibbosity 35

35(34). First posterior cell greatly narrowed in middle by expansion of both the cell before and cell behind; costa and marginal cell strongly expanded. Eighth sternite greatly produced; bilobate, with on each side a dense, apposed brush. Gap sometimes found between superior forceps and gonopod. Female ovipositor consists of a long, cylindrical, slightly tapered structure composed of segments 7 to 10, inclusive; segment 8 the longest; ninth tergite with an acute, elongate extension, extending beyond proctiger . . Lochmorhynchus Engel

First posterior cell not unusually narrowed . 36

36(35). Ventral plate (hypandrium) absent, gonopod often with a dense, apposed brush of pile; forceps elongate . . . . Nerax, new genus

Ventral plate (hypandrium) present, even if short 37

37(36). Abdomen robust at base, comparatively short, strongly tapered; terminalia large, elongate, the superior forceps with deep, lateral cleft. Cratolestes, new genus

Abdomen never exceptionally stout and tapered; male terminalia without long, dorsal and ventral prongs 38

38(37). Ventral process bearing a conspicuous basketlike apparatus of many long and curved, crowded bristles . . . . Lonchodogonus, new genus

Ventral process strongly constricted before apex, with a few loosely scattered, fine, short bristles. Philonerax Bromley

39(32). Apex of abdomen with spines 40

Apex of abdomen without spines 41

40(39). Tenth tergite divided, bearing short spines. Proctacanthus Macquart

Female terminalia bears a wide, extensive band of heavy, short spines. Face with dense, long pile except above gibbosity; lower occiput similarly pilose . . . . Eccritosia Schiner

41(39). Female terminalia exceptionally, greatly flattened. Nerax, new genus

Female terminalia never greatly compressed laterally 42

42(41). Ninth and tenth tergites expanded into a short, wide, bulblike or clublike structure. Lonchodogonus, new genus

Ninth and tenth tergites subcylindrical, long or short 43

43(42). Distal 2 tergites very short, depressed downward at apex. Eighth segment excluded. Philonerax Bromley

Distal 2 tergites not exceptionally shortened. Ovipositor cylindrical. Eighth segment included . . . . . . Lochmorhynchus Engel

44(26). Slopes of lateral metanotal callosity with bristly pile 78

Slopes of lateral metanotal callosity with pollen or micropubescence only 45

45(44). Rim of scutellum not impressed; scutellum high, thick and convex 46

Rim of scutellum with a distinct, impressed crease 47

46(45). Eighth sternite produced into a long, spadelike process, extending nearly as far as the long gonopod, and with tuft of bristles at apex; hypandrium shorter and enclosed between. Hind femur with close-set group of 15 short setae ventrally near apex. Female unknown. Catostola, new genus

Eighth sternite short, not strongly produced; gonopod short or long. No such tuft of femoral setae present 136

47(45). Face extremely narrow in middle eighth of head width or less 48

Face of moderate width, usually a fourth to a third head width, rarely as little as a fifth of head width 51

48(47). Second submarginal cell quite long and narrow at base widened only anteriorly. Third antennal segment moderately long. Arista also moderately long. Face high, almost plane, a mere suggested gibbosity situated above epistoma. Palpus slender, cylindrical. Male terminalia elongate; dorsoventral, distally enlarged, superior forceps narrowed at the base. Female ovipositor extremely long and narrow, composed of 6 segments, the fifth to seventh compressed laterally, the eighth to tenth subcylindrical . . . . . Lycoprosopa, new genus

Second submarginal cell not remarkably long and narrow; male superior forceps broadly joined to preceding segment; female ovipositor not composed of 6 segments 49

49(48). Third antennal segment short, arista long. Face with a very few long bristles dorsally. Senoprosopis Macquart

Third antennal segment exceptionally long, arista short 50

50(49). Third antennal segment extremely long, of nearly uniform width, bearing at the apex an exceptionally short style . . Glaphyropyga Schiner

Third antennal segment quite elongate but attenuate. Style longer, with or without a preceding microsegment. Scutellar rim impressed; lateral metanotum without pile . . . Opopotes Hull

51(47). Middle femur and tibia with spinous bristles. Stout, rather robust flies. Style of the slender, much elongate third segment quite short and fleshy. End vein of fourth posterior cell and medial crossvein at end of discal cell nearly aligned. Discal cell posteriorly strongly occluded. Face poorly developed. Ovipositor conical-cylindrical. Tergal bristles beyond segment one absent . . . Polyphonius Loew

Middle femur and tibia with only normal bristles. 52

52(51). Face very short, both above and below, following curve of eyes and bearing an exceptionally dense, medial face mane or vertical brush of long, fine pile. Third antennal segment long, attenuate, with long, basal microsegment and longer, fine style. Eye posteriorly plane, recessive below. Male wing expanded. Mesonotum with a mane . . . . . . Hippomachus Engel

Face much longer and with distinct gibbosity, at least below. Face mane rarely present; mesonotal mane rarely present 53

53(52). Facial gibbosity general, beginning at or immediately below antenna and leaving face distinctly and gradually convex over whole height. Face both above and below with abundant, very long pile or bristles 62

Face with a distinct convex gibbosity on lower half or two-thirds of face, or quite level with eyes on upper half and nearly or quite plane in profile, with a small, produced triangle ventrally 54

54(53). Ventral face gibbosity strong, with numerous bristles, the lower elements stouter 55

Face gibbosity weak, confined to lower half of face or less, with usually a single row of lower marginal, stout bristles 58

55(54). First posterior cell greatly narrowed before the apex. Medial crossvein or lower end vein of discal cell exceptionally lengthened, so that discal cell appears to be closed by one vein . . 56

Venation of wing not so constructed 57

56(55). Abdomen greatly flattened, broad, with conspicuous lateral tufts of hairs. Female eighth segment cylindrical, longer than wide. Very large flies . . . . . Blepharotes Westwood

Abdomen cylindrical and distinctly tapered; marked hair tufts absent. Ovipositor strongly compressed laterally . . . Pararatus Ricardo

57(55). Dorsal occipital bristles proclinate; eye greatly narrowed ventrally. Scutellum with a pair of strong marginal bristles; pilose. Male terminalia small. Medial bristles present on whole length of thorax but scanty; discal cell not narrowed at apex. . . . . Regasilus Curran

Occipital bristles slightly curved. Apex of discal cell greatly narrowed. Gibbosity strong, occupying lower three-fourths of face.
Myaptex, new genus

58(54). Face nearly plane, narrowly visible dorsally from lateral aspect, total ventral elevation quite short. Second submarginal cell basally widened both anteriorly and posteriorly. Antennal style as long as third segment. Ovipositor composed of 4 segments, all strongly compressed laterally; eighth segment twice as long as seventh; all 4 segments progressively and strongly reduced in height from ventral surface; dorsal surface plane. Small flies.
Leptoharpacticus Lynch Arribálzaga

Face with a moderate but obtusely conical or triangular elevation ventrally. Second marginal cell widened only anteriorly. Flies of medium size 59

59(58). Face in middle seventh of head width, wider below. No stout, lateral, occipital bristles. Second marginal cell quite narrow basally and posterior branch of third vein curved forward. Face without pile. Bristles restricted to 1 row. The 3 segments of ovipositor all relatively short and last 2 quite small and moderately compressed laterally . . Leinendera Carrera

Face in the middle fifth to fourth of head width, or if more narrow, the face bears numerous bristles 60

60(59). End of fourth posterior cell plane. Face with numerous bristles and bristly hairs, these restricted to ventral half. Ovipositor with a pair of submedial, terminal spines.
Neocerdistus Hardy

End of fourth posterior cell convex. Ovipositor without spines 61

61(60). Face with few bristles or hairs and face about a fourth head width. Posterior branch of third vein is continued in same plane as stem of third vein . . . . . . Nyssoprosopa, new genus

Face with numerous bristles, width usually less than a fourth to as little as a sixth head width. Posterior branch of third vein not continued in same plane as stem of third vein.
Cerdistus Loew

62(53). First posterior cell closed and stalked.
Megadrillus Bigot

First posterior cell open 63

63(62). Males 64

Females 71

64(63). Distal half of wings anteriorly expanded in contrast to basal half. Discal cell usually very strongly occluded by fourth posterior cell. Occipital bristles very strongly proclinate. Mesonotum never with mane. Medial crossvein or lower end vein of discal cell as short or shorter than upper end vein (anterior intercalary vein). Anterior crossvein rectangular . 65

Wings not expanded in contrast to plane of basal half of costa; medial crossvein or lower end vein of discal cell longer, and often much longer, than upper end vein 67

65(64). Face nearly or quite plane, with a few hairs or bristles on dorsal half. Wings quite gently expanded; anterior crossvein enters discal cell at outer fourth . . . . . Synolcus Loew

Face distinctly convex, with usually numerous, long bristles throughout, confined chiefly to middle 66

66(65). Wing very gently and slightly expanded. Discal cell only slightly occluded. Base of second posterior cell very little wider than end of discal cell. Costal vein scarcely or not at all expanded . . . . Hobbyus Bromley

Wing strongly expanded. Discal cell strongly occluded. Base of second posterior cell distinctly wider than end of discal cell. Costa thick and swollen . . . . Dasophrys Loew

67(64). Dorsal occipital bristles stout, not proclinate. Dorsal bristles of face few and scattered. Tergal bristles present . . . Dysclytus Loew

Dorsal occipital bristles distinctly and strongly proclinate. Face usually with numerous, long hairs or bristly pile 68

68(67). Tergites without discal bristles; scutellum with a double row of long, upwardly turned and directed, curved marginal bristles. Male terminalia long or globose 69

Tergites with distinct discal bristles. The anterior crossvein rectangular or oblique. End vein of fourth posterior cell not at all aligned with lower discal end vein 70

69(68). End vein of fourth posterior cell nearly or quite aligned with lower end vein of discal cell. Anterior crossvein strongly oblique.
Neolophonotus Engel

End vein of fourth posterior cell not at all aligned. Anterior crossvein nearly rectangular.
Neodasophrys Ricardo

70(68). Only tergites with bristles. Anterior crossvein usually very strongly oblique.
Lophopeltis Engel

Tergites and sternites each with prominent bristles . . . . Lophybus Engel

71(63). Ovipositor exceptionally long and xiphoid . . 72

Ovipositor short, differently constructed . . 75

72(71). Dorsal occipital bristles strongly proclinate. Lower end vein of discal cell usually as short or shorter than upper section 73

Occipital bristles stout but not proclinate. Scutellum with 2 marginal bristles. Tergites with discal bristles . . . . . . Dysclytus Loew

73(72). Face nearly or quite plane, with few hairs or bristles on the dorsal half. Anterior crossvein enters discal cell at outer fourth. Discal cell strongly occluded . . . . . . Synolcus Loew

Face stongly convex anteriorly. Scutellum with 2 to 6 marginal bristles. Tergal bristles present or absent. Anterior crossvein enters discal cell near or before the middle 74

74(73). Scutellum with 2 to 4 marginal bristles. Weak tergal bristles present. Sternites with bristle-like hairs. Base of second posterior cell scarcely swollen . . . . Hobbyus Bromley

Scutellum with 4 to 6 marginal bristles. Tergal bristles usually absent. Base of second posterior cell moderately swollen . . . Dasophrys Loew

75(71). Abdomen without discal bristles. Scutellum with a double row of long, curved, marginal bristles turned and directed upward. Base of second posterior cell very strongly swollen in front 76

Abdomen with segmental bristles above or below. End vein of fourth posterior cell never partly or wholly aligned with lower end vein of discal cell. 77

76(75). End vein of fourth posterior cell nearly or wholly aligned with lower end vein of discal cell. Anterior crossvein strongly oblique.
NEOLOPHONOTUS Engel

End vein of fourth posterior cell not at all aligned. Anterior crossvein nearly rectangular.
NEODASOPHRYS Ricardo

77(75). Tergites only with bristles. Anterior crossvein usually very strongly oblique.
LOPHOPELTIS Engel

Tergites and sternites with bristles.
LOPHYBUS Engel

78(44). Third antennal segment quite long and slender, with 2 quite short microsegments and minute spine, and without style 79

Third antennal segment long, or short oval, or pyriform; style always present, long or short . 81

79(78). Third antennal segment extraordinarily long, slender, and gradually attenuate; this segment 15 to 20 times as long as wide, with no microsegment but with a very short bristle-tipped style. Face very narrow. Posterior margins of tergites with posterior fringe of long, slender bristles. Superior forceps with long, curved, crossed, terminal prong and free space.
STROPHIPOGON, new genus

Third antennal segment not extraordinarily long and slender, with very short style 80

80(79). Third antennal segment nearly or twice as long as combined length of first 2 segments, and very slightly tapered. Microsegments short. Remains of first segment of palpus distinct, excavated, and fused medially. Proboscis dorsoventrally flattened, shovellike, truncate at apex. Face a sixth of head width.
LYCOMYA Bigot

Third antennal segment 1 to 1½ times as long as remaining segments and distinctly tapered. Face more than a fourth head width.
CHILESUS Bromley

81(78). Anterior basitarsal segment exceptionally long, 2 or more times as long as succeeding segment and 6 or 7 times as long as wide. First posterior cell greatly narrowed before apex.
ECCOPTOPUS Loew

Anterior basitarsus not unusually long 82

82(81). Posterior branch of third vein ends at or immediately below wing apex and anterior branch ends very close to stalk of marginal cell . . 83

Posterior branch of third vein ends usually considerable distance behind wing apex. First posterior cell not exceptionally long, slender and undulate; apex of this cell often wide . . 84

83(82). First posterior cell exceptionally long, narrow and undulate, appressed by posterior extension of second submarginal cell. Apex of first posterior cell rather short. Ovipositor of 5 segments, elongate, laterally compressed.
NYSSOMYIA, new genus

First posterior cell wide at margin, as wide or wider than marginal width of third posterior cell. Face very strongly gibbous and bristly. Terminalia large and clublike. Ovipositor abruptly and strongly compressed laterally near base of long eighth segment; remainder short but likewise equally compressed.
PORASILUS Curran

84(82). Third antennal segment with several exceptionally long, dorsal, bristly hairs, as long or longer than first segment. Hind basitarsus stout in both sexes. Blue black flies, wings included; basal half of thick and rimmed scutellum flat. Upper half of face plane with eye. Posterior surface of anterior and middle tibiae with dense mats of long, silky, pale pile.
ANARMOSTUS Loew

Dorsal surface of third antennal segment at most with a few short hairs, usually with none . . 85

85(84). Anterior and middle basitarsus exceptionally short, scarcely longer than next segment; anterior femur ventrally with a patch of 12 or more stout, spinous bristles; anterior and middle tibia with fine pile anteriorly. Face gibbous, abrupt above. Anterior mesonotum widely, dense, long, fine pilose . . ECHTHISTUS Loew

Anterior and middle basitarsus not greatly shortened. Anterior femur not with exceptional complement of bristles 86

86(85). Middle femur anteriorly with a conspicuous cluster of numerous, strong, spinous bristles.
HOPLOPHEROMERUS Becker

Bristle complement of middle femur not exceptional 87

87(86). First posterior cell greatly narrowed in middle. Second submarginal cell exceptionally wide at base, and at base widened above and below its origin. Second posterior cell very greatly widened anteriorly at base and 2 to 4 times as wide as narrow discal cell. Wing of male usually expanded. Marginal cell widened and strongly rippled in both sexes. Ovipositor consisting of the hoodlike, or conelike, bristly, eighth tergite, eighth sternite and the extremely short, ninth segment. Large flies. Superior forceps always distinctly and usually considerably longer than the gonopod.
NEOARATUS Ricardo

Venation not so constructed 88

88(87). Marginal cell in male expanded, its first 2 veins fused with costa. Subcostal cell in female greatly narrowed through middle. Discal cell strongly occluded and second submarginal cell sinuous above. Face plane with eye on upper half, produced as a medium triangle below, with strong, ventral bristles. Ovipositor of 3 segments, elongate, strongly compressed laterally.
CLEPHYDRONEURA Becker

Marginal cell in male not expanded. Females not of such construction 89

89(88). Tergites clearly with only rather fine pile or bristly hairs, except sometimes first tergite. Antennal microsegment present. Face, without exception, strongly produced below, often with a strong gibbosity. If tergites have only fine, short, flat-appressed setae, see couplet 126 90

Several tergites with distinct bristles, stout or slender, along the lateral part of posterior margins; if tergal bristles are weak, face is usually short below. Sternites with or without bristles. Antennal microsegment usually present, sometimes absent. Face usually produced, but often short or weak and sometimes uniformly or barely convex or even retreating at oral margin 95

90(89). Basitarsi robust and swollen, especially anterior pair. Gibbosity of face weak, never with abrupt, dorsal ledge. Superior forceps and gonopod separated from each other with a conspicuous gap or angle. Ovipositor of 5 segments, very elongate, slender; last 3 segments compressed laterally . Astochia Becker

Basitarsi not exceptionally stout and terminalia not so constructed 91

91(90). Face shining black in middle in both sexes. superior forceps elongate, with middorsal tooth, slender, curved at apex to medial plane, leaving a large, free space. Apex of aedeagus with a long, hook-like filament. Proboscis not extending beyond face. Antennal style thick, exceptionally short, with microsegment. Face gibbosity abrupt below . . Rhadiurgus Loew

Face pubescent uniformly. Superior forceps rarely enclosing an oval space. Antennal style of normal length. Proboscis extending beyond face and usually to a considerable extent . 92

92(91). Face with strong, stout, numerous bristles loosely arranged over whole of gibbosity. Face gibbosity prominent and usually rather abruptly produced on its dorsal aspect, leaving a ledge 93

Face gibbosity in the middle with dense, long, bristly pile. No abrupt ledge dorsally. Third antennal segment stout, short, oval, wider than second segment; style very short and stout. Hypandrium quite short . Antiphrisson Loew

93(92). Gonopods meeting below to enclose the whole ventral space. Female eighth tergite not incorporated in ovipositor. Third antennal segment spindle-shaped. Subapex of hind femur laterally with a ventral band of 4 to 6 exceptionally stout, spinous bristles.
Lestophonax, new genus

Gonopods not enclosing the ventral space. Female eighth tergite incorporated in ovipositor; if not, third antennal segment strongly tapered from base 94

94(93). Gibbosity of face with a rectangular ledge. Base of male wing with a milky white color. Aedeagus simple. Proboscis extending a short distance beyond face. Tergite 8 and sternite 8 linear and almost totally concealed. Base of second posterior cell but little swollen anteriorly. Hypandrium absent. Superior forceps enclose an oval space posteriorly.
Pamponerus Loew

Gibbosity of face strong, arising gradually. Base of wing not white. Aedeagus trifid. Tergite 8 long, at least laterally. Sternite 8 and basal plate long. Female ovipositor consists of cylindroid conical eighth segment and slender succeeding segments . . . . . Asilus Linneaus

95(89). Postlateral margin of last tergite with 1 or more short, sharp spines. Base of wing milky white . . . . . . Amphiscolops, new genus

No such spines or spinous bristles. Base of wing rarely white 96

96(95). Tergal bristles exceptionally slender. Superior forceps long, attenuate apically, curved and closely adjacent, without free medial space, with a middorsal notch. Face with a strong and abruptly developed gibbosity. Proboscis blunt and short, extending but little beyond face. Abdomen shining black. Scutellum relatively thin, with weakly impressed rim. Base of second posterior cell not expanded. Style short. Hypandrial plate absent or exceptionally short. Aedeagus with terminal filament . . . . Stilpnogaster Loew

Abdomen pollinose, usually grey or ochraceus or brown. Tergal bristles well developed . . . 97

97(96). Second submarginal cell developed at base slenderly and gradually, as in *Glaphyropyga* Schiner, and principally or entirely above third vein. Third antennal segment quite short, arista quite long and slender. Face quite narrow, with a few, long, dorsal bristles in addition to mystax. Female ovipositor only moderately compressed and moderately long. Apical segments shortened and sometimes turned downward . . . . Senoprosopis Macquart

Second submarginal cell wide at base and not slenderly and gradually developed; this cell extends below the third vein 98

98(97). Face convex and short but beginning to rise gradually a short distance below antenna. Face more or less uniformly convex throughout. Second submarginal cell divided by plane of stem of third vein . . . Epiklisis Becker

Face never uniformly convex; either quite prominent and gibbous or rises gradually so that extension of face is moderate and confined to lower half or less 99

99(98). Face with a very strongly produced gibbosity occupying lower half and usually more than lower half and developed rather abruptly above. Third antennal segment, except in *Oligoschema* Becker, always with microsegment. Whole gibbosity densely beset with bristly hairs and bristles 100

Face with a weak gibbosity confined to lower half and sometimes less than lower half and developed very gradually; never with a dorsal ledge. Pile and bristles confined to gibbosity. Microsegment present or absent 124

100(99). Third antennal segment elongate and exceptionally slender, distinctly more narrow than second segment and distally attenuate. First 2 segments with unusually long, dense pile. Last 3 or 4 segments of abdomen considerably reduced in length. Gibbosity of face occupies lower four-fifths of face, with abrupt dorsal ledge. Male terminalia large, wide, short, obtuse; hypandrium very short or absent. Superior forceps bifid above and turned inward medially Female terminalia composed of 3 segments, all completely compressed laterally; eighth segment much longer than preceding segments. Fifth to seventh female segments and sixth to eighth male segments all short . Erax Scopoli

Third antennal segment long or short oval or lanceolate. First 2 segments not exceptionally long, densely pilose. Last 3 or 4 abdominal segments rarely reduced in length and shortened. 101

101(100). Occipital bristles with rare exceptions strongly proclinate on dorsal elements. Tergal bristles strong. Tergite 8 and sternite 8 and hypandrial plate large and elongate. Strong dorsocentral bristles in front of mesonotal suture. Face narrow. Male terminalia with large, moderately long, laterally convex superior forceps. Hypandrium well developed. Female ovipositor quite elongate, slender, composed of 3 to 5 segments and laterally compressed to a moderate to strong extent and progressively reduced in height . . . . . . Neoitamus Loew

Occipital bristles straight or slightly curved. Ovipositor not elongate and slender . . . 102

102(101). Face with steep sides laterally and medial mane. Mesonotum with a mane. Middle femur swollen and stouter than anterior and posterior pairs. Males with superior forceps elongate, tending to curve to medial line and enclose a free space. Female terminalia quite short, cylindroid, of 3 segments. Stizolestes, new genus

No mane on face or mesonotum 103

103(102). Superior forceps elongate, comparatively slender, curving apically inward towards medial plane and leaving, from dorsal aspect, a large, free, but elongate, enclosed space. Forceps generally with a tooth-cleft or spur. Female ovipositor of 3 segments and only medium length, laterally and moderately compressed on ultimate 2 segments and tenth segment bears 2 or 3 characteristic lateral, stout spines; sternites usually with bristles . . . . Philonicus Loew

No dorsal curved or oval enclosed space between forceps, or if so, forceps are short, massive, swollen. Females without terminal spines . .104

104(103). Terminalia exceptionally large, wide, generally obtuse. Superior forceps with a deep cleft. Hypandrial plate quite short. Base of second posterior cell strongly swollen anteriorly. End of fourth posterior cell exceptionally convex. Sternites with moderate bristles. Third antennal segment with no microsegment. Female terminalia quite short, cylindrical, and conoidal; tenth tergite rather long and directed obliquely downward . . . . . . Oligoschema Becker

Terminalia not exceptionally large and swollen. Venation not so constructed 105

105(104). Style of antenna quite short and stout. Flies with short, rather robust abdomen and densely pilose. Whole scutellar margin and disc exceptionally densely long, bristly or bristly pilose. Lower occiput with matted, long, fine, dense pile. Sternites and sides of abdomen with unusually long, dense pile. Sternal lappet short . . . . Trichomachimus Engel

Flies not of short, robust, densely pilose character 106

106(105). Males 107

Females 115

107(106). Eighth sternite with an apical lobelike or lappetlike extension; dorsocentral bristles before suture weak, short, and inconspicuous . . 108

No extension upon eighth sternite 109

108(107). Scutellar disc with long, bristly hairs. Aedeagus with 5 prongs. Eighth sternite lappet rounded at apex. Sternites with a few bristles. Females characteristic or well differentiated. Machimus Loew

Eighth sternite lappet excised at apex. Scutellar disc with a few, short, scattered bristles or hairs. Aedeagus with 3 prongs. Sternal pile not bristly. Females characteristic or well differentiated . . . . Eutolmus Loew

109(107). Hypandrial plate exceptionally large and comparatively long or extensive 110

Hypandrial plate quite small or absent . . . 112

110(109). Anterior portion of mesonotum with a rather dense mane of long, fine acrostical and dorsocentral bristles. Face with strongly sloping sides. First and second femur with 2 rows of ventral, stout bristles. Superior forceps with a deep, extremely narrow cleft. Gonopod short . . . . Cratopoda, new genus

Anterior mesonotum with only fine, rather short pile, or sometimes a few, fine, scattered bristles. Post dorsocentral bristles exceptionally well developed 111

111(110). Face narrow above, divergent below, with steep, lateral margin. Hind femur with a single row of exceptionally long, stout, attenuate bristles. Terminalia exceptionally large, obtuse; superior forceps and gonopod (in lateral aspect) tend to be dissociated . . . . Threnia Schiner

Face with convex, lateral margin. Femora with only fine pile or bristly hairs. Superior forceps attenuate but exceptionally stout, apex twisted. Gonopod long, closely associated. Proctiger sagittate apically . . Dinozabrus, new genus

112(109). Mesopleuron on its dorsal border with 3 to 6 stout bristles and other bristly hairs. Face gibbosity strongly developed on ventral two-thirds; without ledge. Apex of superior forceps elongate, medially appressed, laterally convex, simple, without notch. Acanthopleura Hermann

Mesopleural bristles weak and inconspicuous or lacking 113

113(112). Terminalia small; proctiger thrust up at an angle. Eighth tergite very short, especially dorsally, often covered. Abdominal segments shortened and abdomen comparatively shortened and somewhat robust; apex of abdomen tends to turn upward. Anterior mesonotal bristles well developed. Tergal and sternal bristles strong. Dysmachus Loew

Flies not so constructed as above. Anterior mesonotal bristles poorly or not at all developed in contrast to the surrounding setae . . . 114

114(113). Sternites with strong bristles on at least segments 2 to 4 137

Sternites with fine pile (subgenus of *Machinus* Loew) . . . . Tolmerus Loew

115(106). Tenth tergite (proctiger) of female extremely flat and narrow, wedged into the preceding section 116

Tenth tergite (proctiger) of female freely extending beyond the last ventral element of the ovipositor 117

116(115). Dorsocentral and acrostical bristles long and well developed before suture, reaching to anterior border of mesonotum . . . Dysmachus Loew

Dorsocentral and acrostical bristles poorly developed anteriorly with at most only 3 or 4 bristles lying before suture . . Eutolmus Loew

117(115). Ovipositor consists of last 2 segments (ninth and tenth) and these segments exceptionally short 118

Ovipositor consists of 3 or more segments . . 119

118(117). Ovipositor large, the last segment nearly or quite as wide as the preceding segment; both wider than long; last segment obtusely triangular with a shallow, medial groove. Antipalus Loew

Ovipositor small, especially last segment, which forms a small, equilateral triangle. Threnia Schiner

119(117). Eighth tergite forms a conspicuous, laterally wide, saddlelike, apically rounded segment to ovipositor, its margin beset with a fringe of long, stout bristles . . . Cratopoda, new genus

Eighth tergite without a bristle-fringed, saddlelike structure 120

120(119). Dorsal mesopleural border with 3 to 6 stout bristles and bristly hairs. Face gibbosity strongly developed on lower two-thirds but without ledge . . . Acanthopleura Hermann

Upper margin of mesopleuron with weak pile or very weak, bristly hairs only 121

121(120). Ovipositor of 3 segments of medium length, moderately compressed laterally. Ninth tergite elongate and strongly slanted down obliquely . . . . . Dinozabrus, new genus

Ovipositor with ninth tergite not elongate and strongly slanted downward 122

122(121). Ovipositor elongate, strongly compressed laterally; length of eighth tergite 3 or 4 times the combined length of last 2 tergites . MACHIMUS Loew

Ovipositor not elongate; the eighth tergite 1 or 2 times the combined length of last 2 tergites 123

123(122). Sternites with strong bristles or at least several segments (subgenus of *Machimus* Loew). EPITRIPTUS Loew

Sternites with fine pile (subgenus of *Machimus* Loew) . . . . TOLMERUS Loew

124(99). Third antennal segment slender, long, attenuate, and nearly equal in length to relatively short arista; a small, conspicuous or inconspicuous microsegment present 125

Third antennal segment distinctly short oval and only a little narrowed apically; arista characteristically long, fine, distinctly longer than third segment; microsegment absent. Lower branch of third vein rather strongly undulate or wavy. 132

125(124). Scutellum with only fine, short, delicate setae, bristles absent 126

Scutellar margin with 1 or more pairs of well developed bristles 128

126(89, 125). Tergites without bristles but with abundant, fine setae. . . . . NEGASILUS Curran

Tergites with bristles 127

127(126). Second submarginal cell at base widened only above third vein and this cell ends far behind wing apex. In males, terminalia greatly widened laterally and inferior surface open, with very large, down-curved, pseudoclaspers; claspers also present. Superior forceps and very short gonopod with a gap or angle between. CNODALOMYIA, new genus

Second submarginal cell widened at base both above and below and very little widened at apex along margin. Small flies . . CERDISTUS Loew

128(125). Sternites with some well developed, characteristic, stout bristles present. Face generally plane or nearly plane, the lower half never more than a slight elevation of a very short gibbosity. No anterior dorsocentral bristles present, only setae present anteriorly. Male terminalia with simple, superior forceps, which tend to be blunt, obtuse, somewhat widened laterally, although in some species tapered or narrowed at apex; there, a small, sharp spur, or lobe, turned inward. Male terminalia also with distinctly elongate, ventral, apposed gonopods. Superior forceps of terminalia enclose or almost completely close off ventral cavity of terminalia. Ovipositor moderately elongate and distinctly compressed laterally. Third antennal segment never conspicuously attenuate. NEOMOCTHERUS Osten Sacken

Sternites at most with slender, bristly hairs or pile. Lower face also poorly developed but sometimes with a moderate gibbosity. Anterior dorsocentral bristles present or absent, or replaced by setae. Male terminalia simple; superior forceps generally elongate; gonopods ventral but not apposed. The superior forceps short or long but never high, and inferior surface of terminalia completely open, with prominent, exposed penis valves and aedeagus, except as gonopod sometimes encloses the basal portion . . . 129

129(128). Superior forceps long, with or without a notch but enclosing a characteristic and conspicuous, posterior space. Gonopod closely apposed to superior forceps. Ovipositor with 1 or more terminal pairs of stout spines on the tenth segment . . . . PHILONICUS Loew

Superior forceps with at most a minute, posterior space or if a large opening is present, gonopod and superior forceps conspicuously divergent. 130

130(129). Lower branch of third vein strongly undulate or with a bend in middle. Terminalia large, superior forceps with a deep, lateral, terminal notch. Ovipositor short, quite cylindrical or short conical, composed of 3 segments. Last sternite and tergite in both sexes with numerous, conspicuous, postmarginal bristles. Third antennal segment characteristically slender, attenuate, a little shorter than the rather fine arista and small microsegment. OROPHOTUS Becker

Lower branch of third vein usually nearly straight, rarely with a pronounced bend and otherwise not as in *Orophotus* Becker 131

131(130). Third antennal segment slender, long, equal in length to arista, a small microsegment present. Lower branch of third vein undulate; second submarginal cell wide at base, but almost entirely widened above third vein. Gibbosity of face confined to lower third of face; upper face without pile or bristles. Male terminalia simple; superior forceps with small, apical notch and small space. Ovipositor short, cylindroid conical, the small ninth and tenth segments deflected downward. Last sternites and tergites with only stiff hairs, no bristles. COBALOMYIA, new genus

Ovipositor of female moderately long and characteristically compressed laterally beyond the middle of eighth tergite. Superior forceps small, with at most a very small terminal notch or none. Third antennal segment comparatively robust, but little attenuate, arista sometimes shorter than third segment and microsegment characteristically conspicuous. Last sternite and tergite without unusual bristles. Face not prominent. CERDISTUS Loew

132(124). Face without a dorsal ledge; sides of face, from anterior aspect, nearly vertical. Male terminalia with superior forceps similar to *Heligmoneura* Bigot but gonopod well developed and lateral, tending to be enclosed by superior forceps. Female eighth tergite and sternite each with a postmarginal fringe of long, strong bristles, especially emphasized on tergite. Males often with a conspicuous fringe of stout, true, lateral bristles on third to fifth tergites, none on second. Paralobi present, replacing claspers. Ventral side of lamella covered with stiff bristles . . . . . . OLIGOSCHEMA Becker

Gibbosity of face confined to lower third of face and also developed gradually 133

133(132). Gonopod large, prominent and lateral and not enclosed by superior forceps; there tends to be a gap or angle developed between these laterally and apically. Arista unusually long and slender. Last female sternite with well developed bristles. Claspers and pseudoclaspers present, borne by gonopods 134

Gonopod small and quite short, inconspicuous, ventral, and enclosed by extraordinarily large superior forceps, which are wide, obtuse and bear a remarkably deep cleft. Face below antenna more than an eighth head width. Aristal style very slender but rather short. First posterior cell only moderately widened apically. Female eighth tergite and sternite with only weak, bristly hairs along the posterior margins. Claspers present, borne by gonopod, and also paralobi borne by superior forceps and reduced to a single pair of smooth prongs. HELIGMONEURA Bigot

134(133). Male genital cavity enlarged with extensive, free, open space 135

Male genital cavity small, tightly enclosed. Female eighth sternite along posterior margin with an exaggerated fringe of spikelike spines (subgenus of *Cinadus* Wulp). CHAETOGONOPHORA, new subgenus

135(134). Scutellum without bristles. Aedeagus not long, free and curved (subgenus of *Cinadus* Wulp). HAPLONOTA Frey

Scutellum with stout, marginal bristles. Aedeagus remarkably long, free, exposed and curved or coiled. Female eighth sternite and tergite with prominent, stout fringe of bristles. Ovipositor as in *Senoprosopis* Macquart, short, cylindroid conical and deflected down at apex on much smaller ninth and tenth segments. CINADUS Wulp

136(46). Posterior branch of third vein ends distinctly behind wing apex. Ovipositor of female short, especially segments 9 and 10; segment 8 cylindrical. Face moderately gibbous, with strong bristles . . . . EICHERAX Bigot

Posterior branch of third vein ends virtually at wing apex. Ovipositor of female elongate, cylindrical, tapered. Tergite 10 with a prominent circlet of spines on either side; face plane, with an epistomal row of bristles and stiff, coarse pile above . . . . PROCTACANTHELLA Bromley

137(114). Eighth sternite recessed beneath seventh, hence very short. Gibbosity of face large and prominent. Rather large flies. Females with characteristic type of ovipositor . ANTIPALUS Loew

Eighth sternite not recessed beneath seventh; no lappetlike extension of eighth sternite as in *Machimus* Loew. Gibbosity of face distinct but comparatively short, and shorter than *Machimus*. Small or medium size flies (subgenus of *Machimus* Loew). . EPITRIPTUS Loew

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Genus *Blepharotes* Westwood

FIGURES 352, 693, 1398, 1407, 2296, 2321, 2451, 2505

Blepharis Macquart, Diptères exotiques, vol. 1, pt. 2, tab. 8, fig. 1, 1838. Type of genus: *Asilus coriarius* Wiedemann, 1830. Figure only. Preoccupied, Pisces, 1817; Orthoptera, 1831.

Craspedia Macquart, Diptères exotiques, vol. 1, pt. 2, p. 82, 1838. Type of genus: *Asilus coriarius* Wiedemann, 1830. Preoccupied, Lepidoptera, 1816.

Blepharotes Westwood in Duncan: The Naturalist's Library, vol. 28, p. 329, 1840. Type of genus: *Laphria splendidissima* Wiedemann, 1830, as *Blepharotes abdominalis* Westwood, 1840, by monotypy.

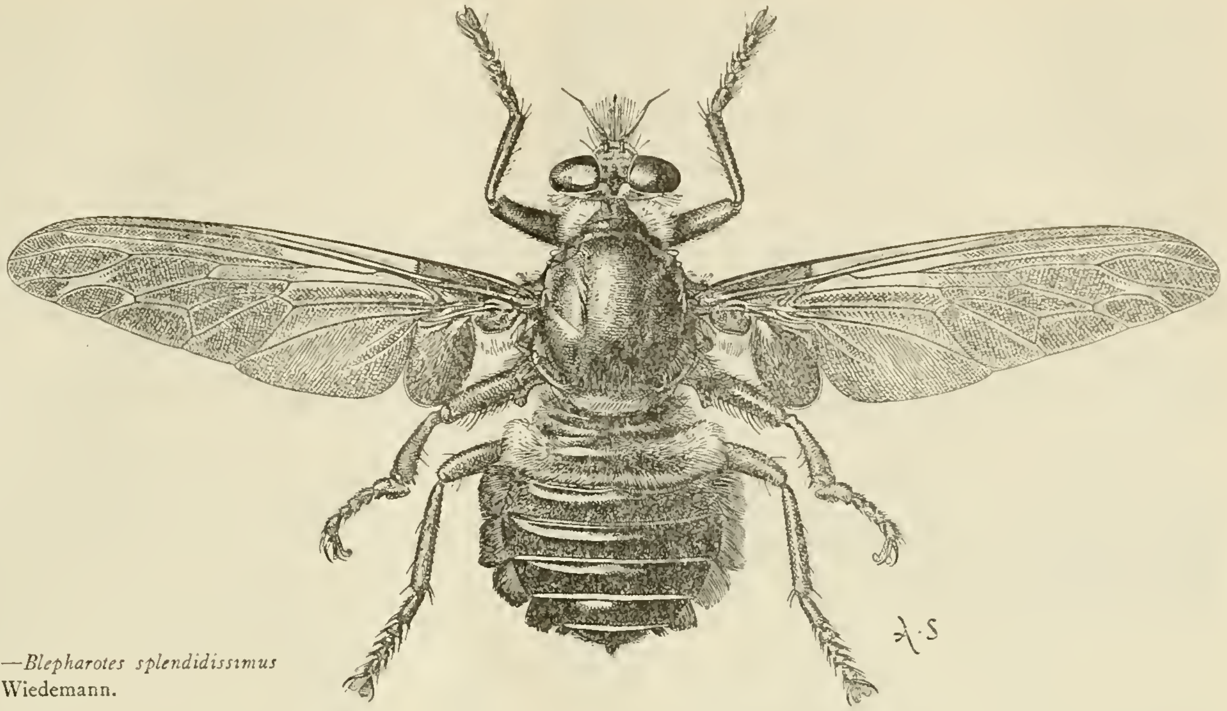
Psecas Jaennicke, Abh. Senckenberg, naturf. Ges., vol. 6, p. 359, 1867. Type of genus: *Psecas fasciatus* Jaennicke, 1867, by monotypy.

Giant flies, readily recognized by the broad, flat abdomen, bearing dense, platelike tufts of pile laterally. The third antennal segment is exceptionally long, the style often short and the venation is distinguished by the long petiole of the marginal cell, the dilated, second submarginal cell and the first posterior cell. Length 25 to 50 mm.

Head, anterior aspect: The head is wide, nearly twice as wide as the height of each eye, cheeks omitted, but not as wide as the thorax. Face below the antenna about a fourth the head width, strongly divergent below. The face is pubescent, with or without pile and almost no pile on the upper third, and with a more or less circular fringe above the subepistomal area of conspicuous, long, stout bristles placed in 1 or more rows and usually a few others on the lower middle third of the face. These bristles extend down the sides of the large, oblique, subepistoma. Front large, sunken in the middle with transverse impression, pollinose, with a subocular row of bristles and a sublateral patch anteriorly or in the middle of each outer half. Vertex deeply excavated, a little more narrow than the front, its sides steeply sloping. Ocellarium large but quite low, bearing 2 or 3 bristles between the posterior ocelli and others behind.

Head, lateral aspect: The head is of medium length, the face comparatively short beneath the antenna, nearly plane throughout its length and very slightly concave or convex over portions of it. Occiput short, concave across the middle, a little better developed medially above and below and at the lower eye corners. Cheeks unusually high and well developed. The pile of the occiput is dense and coarse on the lower fifth; bristles begin below the middle and the dorsal elements are comparatively stout. The proboscis is robust, extending beyond the face, generally held obliquely downward, and with bluntly rounded apex bearing 4 bristly hairs. Palpus large with numerous, very stout bristles and with a distinct trace of a fused basal segment. The antenna is attached at the upper third of the head and is moderately elongate, with the first segment twice as long as the second and the third segment long, attenuate distally and varying from 1½ to nearly 3 times the combined length of the first 2 segments. Third segment generally only a little wider than the second segment, it may be twice as wide. There is a distinct microsegment followed by a style which in the type of genus is usually at least half as long as the third segment, sometimes longer but sometimes it is very short and basally swollen.

Thorax: The mesonotum is broad and low, pollinose, with scanty, scattered, fine, bristly pile laterally above the wing, behind the humerus and medial to the humerus. There is a well differentiated acrostical row and a double, dorsal, central row becoming longer posteriorly and with 3 to 5 pairs of prominent bristles before the scutellum. The lateral complement of bristles is long and stout and consists of 2 notopleural, 1 supraalar, 1 to 2 suprapostalar, 5 or 6 postalar, and 4 to 6 scutellar pairs. Scutellum thick, sometimes flattened on the disc, and with partly impressed rim and a few scattered hairs on the surface. Pronotum with 2 to 6 pairs of stout bristles, the lateral portion sometimes with bristles and the lateral propleuron and cervical sclerites characteristically with dense tufts of



Text-Figure 31.—*Blepharotes splendidissimus* Wiedemann.

fine, white pile, sometimes partly black. Upper mesopleuron and the anterior basalare swollen laterally and bearing pile; the upper pteropleuron, upper sternopleuron and the posthypopleuron with pile. Metapleuron with a broad band of long, bristly hairs and sometimes very stout bristles. Metasternum pilose laterally and below; postmetacoxal area membranous; prosternum dissociated. Metanotal callosity pubescent only. Posterior basalare with numerous bristles and stiff pile.

Legs: The femora are quite stout and moderately long, the first four are a little swollen towards the base and through the middle; most of the pile is coarse, bristly, subappressed, the bristles are very stout, conspicuous and numerous. The hind femur bears 6 dorsolateral, 10 to 14 ventrolateral, and a row of ventromedial and dorsomedial bristles. There are 2 medial bristles at the apex, and a row on the medial surface of the hind trochanter containing from 6 to 8 bristles; all coxae laterally with 2 or 3 bristles. The hind tibia contains 3 dorsolateral, 3 ventrolateral, and 3 posterodorsal bristles. Middle femur with 3 stout, basolateral bristles beginning at the basal third, 27 anteroventral bristles, in the type of genus and in other species similar patches which may be more basal in position. The middle tibia in males is greatly swollen distally with a distal process and bears numerous stout bristles ventrally near the apex on both sides. The females of some species have a double, cone like fringe on the outer half of this very stout, middle tibia consisting of 10 or more spikelike bristles, apposed raptorially to the similar bristles of the femur. Anterior femur with 1 to 3 bristles anteriorly and sometimes with many stout bristles ventrally; they are more slender and reduced in type of genus. Bristles on this tibia sometimes reduced to mere setae, in others with 4 or 5 anterodorsal bristles and 5 or 6 long, posteroventral bristles; posterodorsal bristles are wanting. Apex simple. The basitarsus is long as the next 2 segments but the male middle basitarsus is shortened. Claws stout, including the apex which is moderately sharp. Pulvilli long; empodium bladelike.

Wings: The wings are broad at base, rather long and pointed and generally smoky blackish in color. The marginal cell is closed with an exceptionally long stalk; the anterior branch of the third vein ends shortly above the wing apex, the posterior branch ends shortly behind. The middle of the second submarginal cell is strongly dilated and the second posterior cell very strongly dilated, so that the middle of the first posterior cell is almost occluded. Posterior crossvein remarkably long, the fourth posterior cell and anal cell each closed with a very long stalk. Alula unusually large, the ambient vein complete.

Abdomen: The abdomen is broad and flattened, the width varying from scarcely more than the thoracic width to much wider than the thorax. Pile of the abdomen scanty, fine, subappressed and setate and almost absent on some of the tergites but in all cases expanded along the lateral margin into curious, isolated, rounded, platelike tufts or fringes of pile. Sides of tergites without bristles except on the first segment. Males with eight tergites but the eighth quite short; females with the eighth tergite incorporated in the ovipositor. Male terminalia rather large, robust, elongate, not rotate. The elongate superior forceps notched apically; gonopod much shorter; hypandrium short. The ovipositor is comparatively flattened and broad, becoming somewhat more convex laterally; the eighth tergite is robust, long and cylindrical, it is triangular or trapezoidal in shape, a little longer than its basal width and the ninth segment quite short; the terminal proctiger is nearly twice the length of the ninth segment. The eighth sternite forms two posteriorly apposed, robust, short, bristly lobes directed a little downward.

This is a small but remarkable genus restricted to the Australian region. Wing spread of the largest individuals may be 85 mm. They are said to be alert as well as strong and swift in flight.

Distribution: Australian: *Blepharotes aterrima* Hermann (1907); *coriarius* Wiedemann (1830); *flavus* Ricardo (1913); *punctatus* Hardy (1921); *splendidissimus* Wiedemann (1830) [=*abdominalis* Westwood (1840), *audouinii* Macquart (1838), *fasciatus* Jaennicke (1867)]; *vivax* Hermann (1907).

Genus *Pararatus* Ricardo

Figures 323, 694, 1603, 1624, 1625, 2198, 2210, 2393, 2396

Pararatus Ricardo, Ann. Mag. Nat. Hist., ser. 8, vol. 11, p. 429, 1913. Type of genus: *Blepharotes macrostylus* Loew, 1874, by original designation.

Large flies with elongate, pale, smoky wings and venation as in *Blepharotes* Westwood. They differ from that genus principally in the much more slender, subcylindrical, yet strongly tapered abdomen. The lateral tergal margins have an extensive brush of coarse, long pile on the first 3 or 4 segments but the margins are not flattened; the pile grows progressively shorter posteriorly; only the first tergite with bristles. Metanotal callosity unusually protuberant and micropubescent only. Male terminalia large and clublike. Length 25 to 33 mm.

Head, lateral aspect: The face is short on the upper fourth; it is abruptly produced on the lower and remaining three-fourths but only for a short distance and as a result the lower face is nearly plane. Cheeks moderately extensive below the eyes. Eyes short and reduced in length below and rather flattened. The occiput is moderately and more or less uniformly thick; it is thickest sublaterally; eye developed dorsally and laterally a considerable distance beyond the occiput; pile dense, coarse, abundant, with finer pile below, almost bristly pile above and all of it brownish white; near the upper eye corner are 2 or 3 stout, short, black bristles. Proboscis extended downward and moderately long, robust, with the apex bluntly but rather sharply pointed and sloping above and below; this tapered part bears considerable coarse pile; the basal half ventrally bears quite abundant, long, coarse, oblique pile. Palpus moderately long, with numerous, long, bristly hairs on all sides and the apex. The antenna is attached a little below the upper third of head; first segment twice as long as second with abundant, fine, bristly pile above and below; second with 1 ventral apical seta only and a few above. Third segment elongate and attenuate from base to apex; it is 1½ times as long as the combined length of the first two segments, has no microsegment, and the stout, spine-tipped style is not as long as the third segment.

Head, anterior aspect: The face about a fourth of head width and strongly divergent below; it bears down the middle of only the produced part numerous, long, coarse hairs or bristly hairs which ventrally change over to equally numerous, slender, pale bristles; upper lateral epistomal margin with similar bristles and lower margin with coarse pile continued over the whole cheeks and there changing from pale to black. Front a little widened, with a dorsolateral patch of coarse, long pile almost opposite the enlarged anterior ocellus and with 4 or 5 ocular marginal bristles extending up opposite the ocelli; vertex a little narrowed and quite deeply excavated with vertical sides; ocellarium quite low with on each side a row of rather numerous, fine, black hairs continued behind. Anterior eye facets but little enlarged.

Thorax: The mesonotum is not very high but is abrupt anteriorly and bears an irregular, partly trebled band of fine, short, appressed, black acrostical setae separated by a wide, bare stripe. Extensive dorsocentral elements are continued over the whole anterior mesonotum, except the lateral margins, which have fine, erect pile. Humerus with appressed, fine, black pile. All mesonotal bristles are moderately long, very stout and black, and consist of 2 notopleural, 2 supraalar, 3 postalar, and 3 pairs of scutellar bristles turned upward and curved, with a fourth weak basal element. Metanotal slopes strongly villose, somewhat creased medially, without pile. Mesopleuron with only stiff pile posteriorly and dorsally; a little longer on the posterodorsal corners. Basalare with 3 weak bristles ventrally; pteropleuron with a few hairs behind; hypopleuron with short, appressed pile; metapleuron with a wide band of dense, somewhat matted, brownish yellow pile; pronotum with 3 or 4 stout, black spinous bristles.

Legs: The hind femur is rather slender, somewhat elongate and slightly thickened gradually from the base; it bears dense, fine, short, appressed, black setae and stout, and rather short, black bristles. The bristles consist of 2 medial elements at the apex, 2 dorsal at the apical sixth, 3 lateral before and after the middle, and 1 short bristle close to the base; there are 6 anteroventral bristles, with the basal member doubled and 8 ventromedial bristles. The tibia is rather slender, scarcely thickened at the apex, densely short, black, appressed pilose with curved oblique bristles, which consist of 4 dorsal, 3 ventral beginning near the middle, and 2 lateral bristles at the middle and outer third; 2 lateral, 4 ventral, 2 dorsal, 2 medial. The middle femur is shorter and bears 5 or 6 stout, black, oblique bristles on the posterodorsal margin, including 1 quite close to the apex. There is also present a double ventral row of bristles: the posterior portion contains 9 stout, short, black bristles ending basally in an additional cluster of 5 bristles; in addition there is a stout, appressed cluster of 6 or 7 longer, anterobasal bristles. The middle tibia has short bristles, 3 ventral, 2 dorsal, and 4 posterior bristles. The anterior femur bears a prominent, long, posteroventral row of 7 or 8 bristles, 6 of which are situated on the basal half; the more distal members are weak. Anterior tibia with 2 long and 1 or 2 short posteroventral bristles and 4 weak, short, dorsobasal bristles. Claws long, sharp, slender, sharply bent down at the apex; pulvilli long, thin, somewhat rounded at the apex, nearly as long as claw; empodium three-fourths as long as claw, bladelike.

Wings: The wings are long and comparatively slender and smoky in the type of genus. The axillary lobe is enlarged and there is an incisionary notch at the end of the anal vein. The subcostal cell is narrow, the stalk of the marginal cell long. The second submarginal cell is short and wide, originating barely at or beyond the end of the discal cell; it is greatly widened both above and below the third vein, and the lower branch of the third vein is undulate; since the very short second posterior cell is greatly expanded anteriorly these two veins greatly occlude the first posterior cell in the middle. Anterior crossvein strongly oblique entering the middle of the discal cell; the lower end vein of the discal cell is very long indeed and drawn backward and the upper end vein quite short; the fourth posterior cell is long and closed with a long stalk; second basal cell ends in two veins, anal cell closed with a long stalk. Alula large, ambient vein present throughout but weak over the middle posterior border.

Abdomen: At the base the abdomen is nearly as wide as the mesonotum; the first tergite is strongly ridged in the middle posteriorly, overlapping laterally or bulging and convex, somewhat creased anteriorly; it has dense, rather matted, pale brownish yellow pile among which posteriorly are 5 or 6 weak bristles. Second and third tergites and others in decreasing extent with long, dense, brownish yellow, lateral pile; the actual margin itself has a fringe of black hairs. Middle pile of tergites not appressed. From the third tergite and beyond, the abdomen is gently and gradually tapered; it is wide in the male at the apex, strongly compressed laterally in the female. Males with eight tergites, the last two each half as long as the sixth tergite. Females with seven tergites before the ovipositor. Male terminalia large and conspicuous. Superior forceps high, rather flattened laterally, broad, obtuse and winglike at apex, the 2 balancers apposed, the proctiger erect between. Gonopod prominent but shorter; hypandrium well developed. All parts bear much, long, coarse, black pile, but the dorsal part of the gonopod has especially conspicuous, dense, black pile, as does the hypandrium. Female terminalia are large, elongate, shining black with the eighth tergite laterally compressed and a little longer than the seventh tergite. The ninth tergite and sternite are each of about the same length and are short; the sternite has stubby setae on its dorsal surface. Tenth tergite slightly longer, cylindrical. Pile of terminalia long, dense, bushy, fine and black.

Distribution: Australian: *Pararatus macrostylus* Loew (1874).

Genus *Neoaratus* Ricardo

FIGURES 366, 696, 710, 1616, 1623, 2226, 2250, 2415, 2428

Aratus Wulp, Természetrajzi Füzetek, vol. 21, p. 236, 1898. Type of genus: *Asilus hercules* Wiedemann, 1828, by original designation. Preoccupied by Hymenoptera, 1896.

Neoaratus Ricardo, Ann. Mag. Nat. Hist., ser. 8, vol. 11, p. 437, 1913. Change of name.

Flies which are medium size and sometimes quite large. They differ from *Asilus* Linné chiefly by the relative position of the branches of the third vein. The anterior branch ends at the apex of the wing, the posterior branch ends a considerable distance behind. In addition there are bristles on the sides of most of the tergites. Length 18 to 40 mm.

Head, lateral aspect: The head is rather long, due to the well developed occiput and prominent gibbosity of the face. The upper half of the face is moderately long, and in some species the gibbosity is rather abruptly developed dorsally; in other species, due to its lower and more inconspicuous character, it is gently developed. The occiput is thick throughout, but especially below due to the posteroventral recession of the eye. The pile of the occiput is dense over its whole surface but in some species it is scanty on the upper half. Slender bristles begin near the middle and at the vertex in most species are 4 to 5 pairs of exceptionally stout bristles which usually are of a contrasting color. The proboscis is stout, especially on the basal third, where it is swollen; it is gently tapered to the rounded and slightly pointed apex; the basal half below and laterally bears numerous, long, coarse hairs, and the apex many short, bristly hairs. Palpus large, long and cylindrical with stout bristles at the apex and numerous, long, bristly hairs over most of the surface. The antenna is attached at the upper third of the head and the first segment tends to be unusually elongate and generally twice as long as the second. Both of these segments have numerous, slender bristles ventrally along the dorsal margin and fewer bristles laterally. The third segment is sometimes as long as the first two combined, in which case it is always slender. In other species it is only 1½ times as long as the second segment and is wide at the base and attenuate. There is a small microsegment followed by a style approximately as long as the third segment.

Head, anterior aspect: The head is not as wide as the thorax and only a little wider than high. The face below the antenna varies from about a fifth to a seventh of the head width and is divergent below. Face, cheeks and the very large, oblique epistoma pubescent; the cheeks are quite prominent. The upper portion of the face generally without pile, sometimes with a few setae along the eye margin. The facial gibbosity, whether low or prominent, contains numerous, long, slender bristles and bristly hairs on the upper portion; also on a medial triangular area which rests on the epistoma it contains many, long, stout bristles which extend down the sides of the subepistoma. Front short, pollinose, with an anterior, sunken, shallow groove and bearing a subocular patch and medial to it a sublateral patch of numerous, rather stout bristles and bristly hairs. The front is a little widened, the vertex distinctly narrow and rather deeply excavated. The ocellarium is large, sometimes without bristly pile between the ocelli, but more generally with 2 to 6 pairs of bristles located there and a like number of pairs behind the ocelli.

Thorax: The thorax is moderately high but long and arched anteriorly and posteriorly; it is pollinose, with numerous, suberect setae. In some species the acrostical bristles are developed into a distinctly isolated double row but in the type of genus not so. Humerus with bristly pile; there are well developed dorsocentral elements differentiated, beginning a short distance behind the humerus, with a prominent, bare, submedial stripe in most species. The posterior dorsocentral elements are longer. The lateral complement of bristles contain 1 often weak posthumeral, 2 or 3 notopleural, 2 to 4 supraalar, at least 2 suprapostalar, 3 postalar, and on the scutellum 1 to 3 pairs of bristles; in the type of the genus the scutellum has no bristles and only a row of numerous, fine, long, bristly hairs, and a considerable number of hairs on the disc. In other species there are only a very few hairs on the disc. Scutellum moderately thick and convex with a distinct impressed rim. The pronotum may have 3 or 4 pairs of slender bristles, as many stout ones, or may have only long pile. Upper and posterior borders of the mesopleuron with a narrow band of hairs or sometimes with rather numerous, slender bristles, together with similar elements along the upper sternopleuron, the upper pteropleuron, posterior hypopleuron and with a double irregular row of long, slender bristles on the metapleuron. Posterior basalare with bristly pile and the metanotal callosity with similar pile. Metasternum pilose; postmetacoxal area membranous, the prosternum dissociated.

Legs: The femora are stout; only the first 4 are a little swollen. The pile is abundant but unusually fine, subappressed and on the tibiae somewhat more setate. Bristles are exceptionally numerous, stout and conspicuous in the type of genus, but somewhat less numerous in other species. The type of genus bears the following bristles: 5 medial bristles on the hind trochanters and on the hind femur 3 lateral, 6 ventrolateral, and 4 ventromedial bristles. Dorsally at the subapex of the hind femur there is a bristle on each side and at the apex 1 lateral, and a medial row of 4 or 5 bristles. The hind tibia bears 3 dorsolateral, 4 dorsomedial and 4 ventrolateral bristles; apex with 10 bristles. Middle femur with 4 very stout, anterior bristles, 4 equally prominent, anteroventral bristles, and 8 posterior bristles; its tibia bears, beginning at the middle, 4 dorsal, 4 posterior, 1 distal posteroventral, and 3 very long, stout, anteroventral bristles. Anterior femur with 3 stout, posterior bristles; its tibia has 1 stout, basal anterodorsal, and 4 shorter elements, 3 posterodorsal, and 2 long, posteroventral bristles. All surfaces of the femora with conspicuous fringes of long, slender hairs. All basitarsi comparatively short and robust; the first basitarsus is long as the next 2 segments; hind basitarsus as long as the next three. Claws stout, sharp, bent chiefly at the apex; pulvilli large; the empodium bladelike.

Wings: In the male of the type of genus the costa is bent outward and greatly thickened over the middle. The marginal cell is very greatly widened and the first three cells of the anterior border conspicuously and regularly rippled. In females the marginal cell is moderately widened and moderately and regularly rippled. In other members of the genus this marked widening and rippling is lacking. In the type of genus the anterior branch of the third vein ends a little before the wing apex but in other species it ends at the apex. In any case, the posterior branch ends a considerable distance behind. The base of the fourth posterior cell is abruptly widened to at least twice the width of the discal cell, the base of the second submarginal cell arises at a strong angle from a plane base formed by the third vein. Fourth posterior cell closed and stalked and the anal cell likewise. Ambient vein complete.

Abdomen: the abdomen is elongate, tapered and subcylindrical, never as wide at its base as the thorax. The surface is pollinose, the pile abundant, fine, subappressed and setate. The lateral margins bear longer pile on the first three segments and in the type of genus on the first five segments. In the type of genus dense, conspicuous, long, fine pile is on all the sternites, in contrast to other members of the genus. Sides of the first tergite with stout bristles. The subposterior margins laterally on the remaining tergites have at least several, slender bristles. Males with eight tergites, the eighth tergite generally quite short dorsally, or even reduced to a membranous portion and little more conspicuous laterally; in others the eighth tergite is moderately long and from a third to half as long as the seventh segment. Females with seven tergites apart from ovipositor. Male terminalia large, with long, superior forceps, sometimes notched distally. The gonopod is only half as long; the hypandrium is rather long with transverse margin. The aedeagus forms a single tube. The female terminalia are characteristic with a broad, hoodlike structure about as long as wide, laterally lapping over the corresponding sternite. Ninth segment quite short, the tenth a little longer.

Distribution: Australian: *Neoaratus bancrofti* Hardy (1935); *hercules* Wiedemann (1828) [=*giganteus* Macquart (1847), *grandis* Macquart (1848), *plicatus* Wiedemann (1830)]; *inglorius* Macleay (1827) [= ?*amycla* Walker (1855), *planus* Walker (1855)];

illingworthi Hardy (1922); [*?macquarti* Bigot (1860)] *malleolus* Walker (1849); *regius* Jaennicke (1867); *rosevillensis* Hardy (1935); *rufiventris* Macquart (1838); *sydneyensis* Macquart (1838) [=*amythaon* Walker (1849), *maso* Walker (1849), *?nigritarsis* Macquart (1834), *tasmaniae* Macquart (1838)].

Irwin-Smith (1923) described and illustrated egg and first stage larva of *Neoaratus hercules.*

Genus *Apoclea* Macquart

FIGURES 392, 707, 1384, 1395, 2184, 2228

Apoclea Macquart, Diptères exotiques, vol. 1, pt. 2, p. 119, 1838. Type of genus: *Asilus algirus* Linné, 1767, as *Apoclea pallida* Macquart, 1838, in Engel, 1926.

Medium size or large flies, rather strongly tapered and characterized by the dense, pale pollen and pile. The pile is extremely short and characteristically appressed. Bristles are prominent and pale in color. The wings usually have a rectangular crossvein between the anterior and posterior branches of the third vein with that part of the anterior branch which is basal and lies before the crossvein broken and not joining the second vein. Rarely in this genus there are individuals with this section unbroken, forming 3 submarginal cells; also rarely the crossvein is absent, leaving only 2 submarginal cells. Metanotal callosity without pile. Female ovipositor with short, dorsal, conical spines or long, large, apical spines or both types. Length 16 to 27 mm.

Head, lateral aspect: The face is quite short dorsally and nearly plane with the eye margin and more prominent below, due to the recession of the eye; the whole anterior profile is nearly plane and vertical. The eye is long and very strongly convex anteriorly, sharply recessive anteroventrally on the lower fifth, where the posterior margin is oblique and plane, the remaining posterior margin is gently convex. Occiput rather short and of nearly equal thickness throughout, widest submarginally, the pile is long and unusually dense ventrally, reduced in length and quantity on the upper portion of the head and partly replaced by quite stout, short bristles; these begin at the middle of the head and consist of about 20 on each side, including a small cluster situated medial to the upper eye corner. The proboscis is stout, distinctly swollen towards the base both laterally and dorsally in the type of genus, but very slightly swollen in a few species; the apex is obtusely rounded with fine, bristly hairs. On the basal half not only the ventral surface, but the lateral surface is rather densely long pilose in the type of genus and other species but the quantity reduced in some species. Palpus long, slender and cylindrical, with numerous, slender, apical bristles and some fine, ventral and lateral pile. Antenna attached between the middle and the upper third of the head and moderately elongate; the first segment is a little longer than the second. The third segment in the type of genus is widest in the middle, almost as wide basally, but moderately tapered on the outer half and carrying a short microsegment and a thick, basal style distally swollen; this segment is approximately as long as the first antennal segment, or very slightly longer; the style is one and a half times as long as the third segment; the style bears a minute spine. In *Apoclea helvipes* the third segment is quite short and pear-shaped.

Head, anterior aspect: The head is very little wider than high. The face below the antenna is little more than a fourth the head width and divergent below. Subepistomal area large, concave, oblique, and pubescent. Face densely pubescent and covered with a characteristic, wide, dense, appressed mat of rather long, slightly curved, pale bristles; the epistomal margin has 2 or 3 rows of numerous, closely adjacent, longer, quite stout bristles and other more slender elements continued laterally beside the subepistoma; they vary in quantity on the upper face. The front is short and pollinose with numerous, short, subappressed bristles along the lateral third; the vertex is deeply excavated, the ocellarium is small and low and bears 2 or 3 pairs of short, stiff bristles curled forward. Sides of front slightly divergent, convergent at the vertex. Anterior eye facets strongly enlarged.

Thorax: the thorax is densely pale pollinose. The pile of the mesonotum is abundant but quite short, subappressed and setate. Acrostical elements not differentiated; dorsocentral elements differentiated only opposite the postalar where there are 4 or 5 pairs of long, quite stout bristles. In the type of genus the following complement of long, stout, lateral bristles present: 2 notopleural, 1 supraalar with 1 suprapostalar, 2 postalar and 1 pair of scutellar bristles, increased to 3 pairs in some species. Scutellum thick, convex, with impressed rim, the base with a sharp crease laterally, the surface pollinose and densely covered with long, stiff, nearly erect pile which tends to be curled forward anteriorly. Propleuron with especially abundant, long, dense pile ventrally and with 5 or 6 pairs of stout bristles on the pronotum. Mesopleuron with dense, appressed, rather short pile dorsally, some scattered, erect hairs posteriorly and similar pile on the anterior and posterior sternopleuron, the pteropleuron, the posthypopleuron; the metapleuron has 3 to 6 stout bristles in a vertical row on the lower half and stiff pile above. Metanotal slopes micropubescent only. Lateral and ventral metasternum with rather abundant, short pile; postmetacoxal area membranous; tegula with some short bristles; posterior basalare with a conspicuous ventral patch of 5 or 6 stout bristles, absent in *Apoclea continuata.*

Legs: The femora are stout, rather strongly swollen on the anterior and middle pairs; the pile is dense, moderately long and flat appressed everywhere, except on the ventral surface of the anterior and posterior tibiae. Bristles stout, comparatively short and pale. In the type of genus there are on the hind femur 8 ventrolateral, 4 ventromedial, 4 dorsolateral, 1 dorsomedial a short distance back from the apex, and 2 short, medial apical bristles. This tibia has 3 dorsomedial, 4 dorsolateral, 2 ventrolateral bristles, the apex with 1 dorsal, 2 lateral, 2 medial, 1 ventral bristle. Middle femur with 3 anterior, 5 posterior, and 2 additional posterior bristles at the apex, but no dorsal, no anterior bristles except rarely 1 distal element, also there are 4 posterior, 2 posteroventral, and 3 anteroventral bristles. Anterior femur with 3 ventral bristles on the basal half; the tibia has 2 short dorsal and 2 to 3 long, stout posteroventral bristles. Basitarsus short; not as long as the succeeding 2 segments; claws long, quite slender and sharp; the pulvilli is well developed; the empodium slender but bladelike.

Wings: The wings are distinctly shorter than the abdomen; marginal cell closed with a comparatively short stalk; the subcostal cell is extremely narrow, the marginal cell relatively wide. The anterior branch of the third vein ends characteristically well above the wing apex, and may rarely be carried back to join the second vein, or is usually disconnected basally for a short distance; in any case there is a well developed crossvein connecting it to the third branch of the radius with a well developed appendiculate stump vein beyond the crossvein in those cases where the anterior branch fails to join the second vein. The appendiculate stump is present in the type of genus and in *Apoclea femoralis*, *micracantha* and *helvipes* but the anterior branch of third vein is complete in *Apoclea continuata* and in an undetermined species from Baluchistan. First posterior cell usually open, sometimes closed and quite variable; of the material studied it is open in *Apoclea micracantha*, *helvipes* and *continuata* but closed and stalked or narrowly open in *Apoclea algira* and *femoralis*. Marginal cell widened in both sexes, but the costa not expanded; however, the wing anteriorly is strongly rippled. Villi absent; fourth posterior cell closed and stalked, gently convex on all 3 sides. The veins at the end of the second basal cell are fused for a short distance beyond in most species. Anal cell closed; alula large, ambient vein complete.

Abdomen: The abdomen is comparatively slender at the base and not quite as wide as the mesonotum and rather strongly tapered. Pile of the abdomen fine, short and flat appressed throughout in the males but becoming erect though scanty on the female terminalia. Sides of first tergite with a large tuft of long, dense pile, and 5 or 6 stout bristles. In the males laterally and transversely there is a row of bristles set well back from the posterior margin. In the males in the type of genus there are 5 pairs on the sides of the second and third tergites, 4 on the fourth and fifth and 2 on the sixth and 1 on the seventh tergite; in these females such bristles are absent and only the first tergal bristles and the 3 middle bristles of the second tergite are present. In the males eight tergites are present, the eighth from a little more to a little less than half as long as the seventh. In the females seven tergites are present; the long eighth segment is incorporated within the ovipositor. The male terminalia large, the superior forceps large, completely separated but closely apposed and from lateral aspect completely dominating the terminalia. Female terminalia subcylindrical, tapered at the same rate as the previous tergites; the eighth segment is longer than the preceding segment and 3 times as long as the ninth; at the apex characteristically there are 2 or 3 transverse rows of long, strong, upturned spines of somewhat varying length; each row contains 3 or 4 sharply pointed spines.

This genus is a dominant element in the North African, Arabian, and Asia Minor regions. A few species are described from both India and Central Africa.

Distribution: Palaearctic: *Apoclea albipila* Becker in Becker and Stein (1913); *algira* Linné (1767) [=*aberrans* Schiner (1867), *alginis* Fabricius (1787) *lapsus*, *deformis* Walker (1871), *fuscana* Macquart (1838), *mivata* Walker (1871), *pallida* Macquart (1838), *vegeta* Wiedemann (1828)]; *approximata* Becker (1907); *arabica* Becker (1909); *autumnalis* Becker (1909); *conicera* Loew (1856); *continuata* Becker (1908); *femoralis* Wiedemann (1828) [=*aperta* Becker (1908), *helva* Wiedemann (1828), *illustris* Schiner (1867)]; *helvipes* Loew (1873), *micracantha* Loew (1856), *plurisetosa* Becker (1909); *trivialis* Loew (1873).

Ethiopian: *Apoclea heteroclita* Wulp (1899); *infuscata* Wulp (1889).

Oriental: *Apoclea indica* Bromley (1935).

Verrall (1909), Engel (1925), and Efflatoun (1934), credit the species *Apoclea algira* to Fabricius, 1794. These authors have evidently followed an error of Wiedemann, (1828), who credited this species to Fabricius in his heading (page 461), but in fine print below gives proper prior credit to Linné.

Genus *Bisapoclea* Becker

Bisapoclea Becker, Ent. Mitt., vol. 14, p. 76, 1925. Type of genus: *Bisapoclea duplicata* Becker, 1925, by original designation.

The following is Becker's description in translation:

> As the name already indicates this genus is closely related to *Apoclea* Macquart, and is also somewhat larger and darker colored and is moderately pilose and bristled. It is a slender species of the habitus of *Philodicus* with slender, not bristly abdomen. The thorax is very short pilose; immediately before the scutellum there stand on each side 4 black, dorsocentral bristles, sometimes in double rows; the scutellum is covered on its entire surface with white, erect, bristly hair. The head is about as broad as the thorax; front and face broad, densely haired. The antennae stand closely together, in form and size as in *Apoclea*; the third segment is like an onion, not much longer than broad with a bare terminal arista of the length of the antennae. Abdomen delicately haired, without bristles, with 7 segments; the ovipositor consists of three parts and bears on the apex 6 black bristles. Legs relatively slender; there are moderately strong bristles present, stronger on the tarsi. Wings short, with 3 submarginal cells; the supernumerary crossvein is placed not very far from the base of the fork of the veins, approximately half the distance of the supernumerary crossvein from the usual crossvein; the latter stands somewhat before the middle of the discal cell.

Distribution: Palaearctic: *Bisapoclea duplicata* Becker (1925).

A specimen of a robust species loaned by the Berlin Museum and labeled *Bisapoclea duplicata* Becker appears to doubtfully belong here. The more important characteristics noted from Becker's description consist of the slender form like *Philodicus* Loew, the absence of spines on the ovipositor, the absence of bristles on the abdominal tergites and the short, "onion-like" antennal segment.

Genus *Philodicus* Loew

FIGURES 335, 695, 1387, 1396, 2387, 2390

Philodicus Loew, Linnaea Entomologica, vol. 3, p. 391, 1847. Type of genus: *Asilus javanus* Wiedemann, 1819, by original designation.

Teretromyia Bigot, Ann. Soc. Ent. France, ser. 3, vol. 7, p. 416, 1859. Type of genus: *Teretromyia cothurnata* Bigot, 1859, by monotypy.

Flies of medium size or less. The facial gibbosity is low, chiefly developed through the recession of the eye. Pile short and scanty, the occipital bristles restricted to the upper ocular corners. Characterized by the long, slender wings with three submarginal cells; the second submarginal cell begins at or just beyond the end of the discal cell and the first submarginal cell begins before the end of the discal cell. The anterior branch of the third vein ends above the wing apex. The apex of the marginal cell is bulbous, the subcosta very narrow and the stalk quite short. The first posterior cell is long and narrow, with nearly parallel sides and the discal cell is narrowed in the middle. The crossvein between the branches of the third vein is located at about the same relative distance from the point of origin of the anterior branch as in *Apoclea* Macquart; in both these genera it lies much farther away than in *Alcimus* Loew. These flies are related to *Apoclea* and differ by uniformly having three submarginal cells. Lenth 20 mm.

Head, lateral aspect: The face is narrowly produced and visible in profile on the upper half, slightly more prominent below; the greater part of the gibbosity is due to the recession of the eye. The eye is slightly recessive anteriorly on the lower posterior part and distinctly wider on the upper half, strongly convex anteriorly, slightly convex posteriorly. The occiput is rather thick and extending undiminished to the vertex. The pile is abundant and composed of several rows of long, stiff hairs, especially long and abundant below. Bristles restricted to the upper eighth of the occiput where there is behind the upper eye corner a cluster of about 8 quite stout, but rather short, curved bristles. The proboscis has moderate dimensions; is directed obliquely downward and is slightly swollen towards the base in dorsal aspect; has a low, medial ridge, a blunt apex which carries abundant, fine pile dorsally and ventrally, and numerous, long, stiff hairs ventrally below. Palpus of one segment, with stiff, apical hairs and fine, long pile elsewhere. Antenna attached at the upper third of head with the first segment not quite twice as long as the second. Third segment slender, at least as long as the first two combined; the terminal style is a little longer than the third segment; there is no microsegment present. First segment has 2 or 3 stout setae dorsally and several ventrally. Second segment with 3 or 4 setae dorsally and 5 ventrally.

Head, anterior aspect: The face below the antenna is two-sevenths of head width and very slightly divergent below. Subepistomal area moderately large, concave and pubescent. The face is pubescent, with stiff, bristly pile on the uper half; in the middle it has a triangular group of 7 unusually stout, long, curved, pale bristles directed obliquely downward and 3 more at the upper, lateral corner of the epistoma, with an additional marginal fringe of long, stiff, bristly hairs. The front is very slightly divergent, the vertex a little more convergent; sides of front with a row of weak bristles. Vertex moderately excavated, with strongly slanted sides. Ocellarium exceptionally small and low with 3 pairs of fine hairs. Eyes with central facets enlarged.

Thorax: The thorax is everywhere pollinose; the pile of the mesonotum is scanty, consisting of unusually short, stiff, nearly erect, basally stout setae. Acrostical setae are poorly delimited; dorsocentral elements are present but are poorly or not at all differentiated anteriorly; they usually begin at the postalar level with a row of 3 moderately long bristles. Humerus pilose; lateral bristles are long and quite stout and consist of 2 notopleural, 1 supraalar, 1 suprapostalar, 2 postalar and 1 pair of scutellar bristles. Scutellum thick, convex, with distinct impressed rim, pollinose and bearing a number of long, erect hairs. Propleuron with moderately abundant, fine pile and the pronotum with 3 or 4 pairs of bristles; upper anterior and posterior mesopleuron with a few moderately long hairs. Upper sternopleuron with about 20 quite long hairs. Pteropleuron with 6 to 8 fine hairs; posthypopleuron with 1 quite stout, long bristle and a few, moderately long hairs. Metapleuron with 4 stout bristles below and a tuft of long, stiff pile above. Metanotal slopes micropubescent only. Posterior basalare with a patch of 12 setae; squama with a multiple fringe. Lateral and ventral metasternum with some long, fine pile; postmetacoxal area membranous, slightly narrowed from the sides. Prosternum dissociated.

Legs: The legs are stout, the anterior 4 femora rather strongly swollen towards the base and together with all tibia covered with dense, appressed setae. The hind femur bears stout bristles consisting of 2 dorsomedial, 2 dorsolateral at the apex, and a lateral row containing 4 bristles. There is a ventrolateral row of 6 or 7 bristles and there are 2 rather long, stout ventral bristles at the base; hind tibia with 2 stout, dorsomedial on the basal half, 3 dorsolateral, and 2 ventrolateral bristles. The brush of setae begins near the base and extends on to the first 2 tarsal segments. Middle femur with 2 stout, posteroapical, 5 weak, short posterior, 3 stout anterior, and 3 anteroventral bristles besides a ventral fringe of stiff hairs. Middle tibia with 2 or 3 minute dorsal and 2 stout, dorsal bristles at the middle; one of these elements at the apical third is matched anterodorsally, posteroventrally, and anteroventrally by a similar, long, stout bristle. There is an additional, stout, ventral bristle immediately beyond the first. Anterior femur with 1 anteroapical bristle and a rather copious, ventral fringe of long, stiff hair; its tibia has 1 anterodorsal at the base, 2 dorsal from the middle, 1 very stout posterior bristle at the outer fifth, and a long, posteroventral fringe of stiff, bristly hairs; apical circlet of 8 bristles. Basitarsus short and robust and both its anterior and posterior apical bristles long and stout. Anterior coxa with a dense patch of weak, long bristles and bristly pile anteriorly, the lateral surface concave; middle coxa with 10 or more bristles laterally and 2 posteriorly; posterior coxa with 2 bristles laterally, 2 anteriorly. Tarsi end in long, spatulate pulvilli, quite stout, long empodium, and long, sharp claws, strongly bent at apex.

Wings: The wings are hyaline or tinged and comparatively slender; subcostal cell quite narrow. Marginal cell wide, narrowly closed with very short stalk, the end somewhat bulbous. First submarginal cell slightly narrowed in the middle; the anterior branch of the third vein ends above the wing apex. Three submarginal cells are present. A crossvein is present basally between the anterior and posterior branches of the third vein. The posterior branch of the third vein ends far behind the wing apex. First posterior cell very long and narrow and of uniform width; both end veins of the discal cell of nearly equal length. Fourth posterior cell closed and stalked, convex anteriorly and distally; second basal cell ends in 2 veins; anal cell closed; alula large, ambient vein complete. Wings strongly rippled.

Abdomen: The abdomen is unusually slender and gently tapered from the base, subcylindrical and distinctly longer than the wings. The tergites laterally are strongly swollen and convex. Pile fine, appressed and setate but moderately long and erect on the sides of the first three tergites. Distinct, stout, tergal bristles are present; 2 or 3 on the first tergite and 1 or 2 subpostmarginally and laterally on tergites 2 to 6 only. Sternites with fine, more or less appressed pile and no bristles. Eight tergites present in the male, the last three a little shortened. There are seven tergites in the female, those beyond are incorporated in the ovipositor. Male terminalia large, moderately elongate, clublike. The proctiger lies flat or is concealed. The exposed part of the gonopod is extremely small and short and is largely ventral and basal in position. Hypandrium quite short. Eight sternite unmodified. The very large, laterally convex superior forceps tend to enclose the cavity both above and below. In the females the eighth segment is long and cylindrical and a little narrowed posteriorly. The ninth and tenth segments are also cylindrical and more narrowed so that the whole ovipositor resembles a long, slender cone. Tenth segment with very short, erect, dorsal spines and apex with a pair of longer, stout spines. The ovipositor is rather similar to *Apoclea*.

I give below a translation of Bigot's description:

Type of genus: *Teretromyia cothurnata* Bigot, 1859, by monotypy.

Antennae with style elongate, obtuse at apex, the third segment ovoid, bases close together and inserted on the front. Face; two swellings added, a little protruding, the mystax reaching the base of the antenna. Vertex very concave. Abdomen; narrow, rather short; female, ovipositor almost as long as the abdomen and formed of three segments, almost equal between them, compressed and drawn out and tapering at the end. Wings; marginal cell closed almost at the border; transverse veins situated on different lines (not aligned?), three submarginal cells, four posterior cells [*quatre posterieures*], first rather large and largely open, second narrow, and a little longer than the following, third very widely open, fourth and anal cells closed, appendiculate, the following (anal lobe?) widely open. Tarsi; basal segment a little shorter than the next two combined. Claws sharp. Male terminalia upright, without a spiny or thorny crown [*cpiceuse*]. Relative of *Eichoichemus* Bigot, 1857, p. 543.

Distribution: Ethiopian: *Teretromyia cothurnata* Bigot (1859).

Distribution: Palaearctic: *Philodicus bimaculata* Becker in Becker and Stein (1913); *spectabilis* Loew (1870).

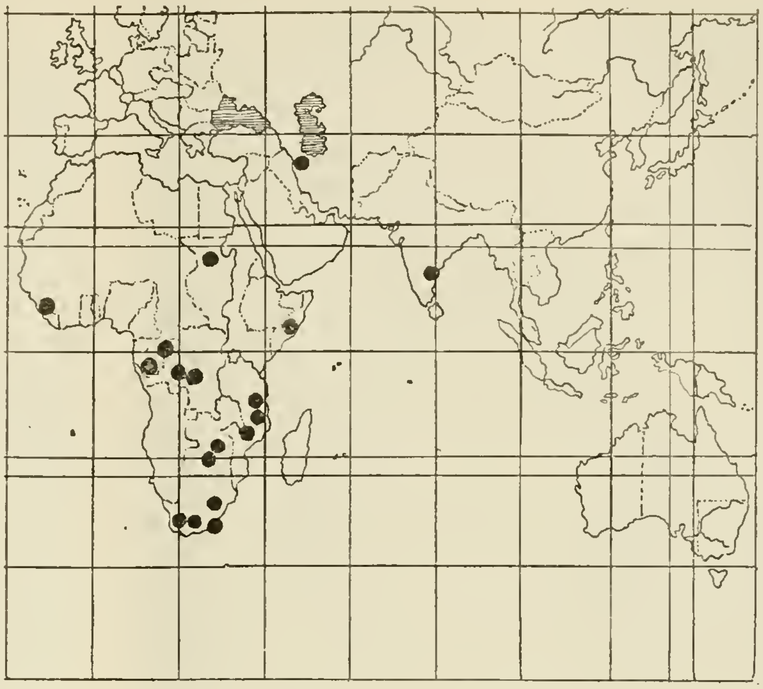
Ethiopian: *Philodicus cinerascens* Ricardo (1922); *cothurnata* Bigot (1859); *dubius* Ricardo (1921); *gracilis* Wulp (1899); *nigrescens* Ricardo (1921); *nigripes* Ricardo (1925); *obscuripes* Loew (1858); *ocellatus* Becker (1923); *pavesii* Bezzi (1892); *swynnertoni* Hobby (1933); *tenuipes* Loew (1858); *walkeri* Ricardo (1921).

Oriental: *Philodicus ceylanicus* Schiner (1868); *chinensis* Schiner (1868); *femoralis* Ricardo (1921); *fuscus* Macquart (1838); *grandissimus* Ricardo (1921); *javanus* Wiedemann (1819) [=?*agnitus* Wiedemann (1819), *melanurus* Doleschall (1856), *rubritarsatus* Macquart (1838)]; *longipes* Schiner (1868); *meridionalis* Ricardo (1921); *ochraceus* Becker (1925); *pallidipennis* Ricardo (1921); *pruthii* Bromley (1935); *rufiventris* Bigot (1890); *thoracicus* Ricardo (1921).

Country unknown: *Philodicus blandus* Wiedemann (1828). See addendum (p. 595) for changes in synonymy.

I have not seen the species *Philodicus cothurnata* Bigot from Madagascar, the type of Bigot's genus *Teretromyia*, but Dr. Hobby of the Hope Department of Entomology, University Museum, Oxford, England, wrote me in 1952: "Bigot's *cothurnata*, the type of the genus *Teretromyia* Bigot is in Bigot's carton no. 4 under the genus *Philodicus* to which it had been assigned by Bigot apparently subsequently to its inclusion in the genus *Teretromyia*."

In this genus I have given the arrangement of species largely as found in Kertész (1909). See Ricardo (1921) for numerous changes in assignment and synonymy of species which she has suggested in both *Philodicus* Loew and *Alcimus* Loew.



TEXT-FIGURE 32.—Pattern of distribution of the genus *Alcimus* Loew.

Genus *Alcimus* Loew

FIGURES 387, 717, 1417, 1426, 2272, 2326, 2475, 2476

Alcimus Loew, Linnaea Entomologica, vol. 3, p. 391, 1848. Type of genus: *Trupanea longipes* Macquart, 1838, by monotypy.

Large, elongate, and slender flies, the abdomen longer than the wing, cylindrical but strongly tapered. The wings are exceptionally long and slender; pilosity is greatly reduced. These flies are also characterized by the short face and the elongate hind legs, distinctly longer than the abdomen. There are three submarginal cells present and the crossvein between the branches of the third vein is placed very close to the point of origin of the anterior branch. Length 25 to 40 mm.

Head, lateral aspect: The face is slightly produced on the upper half, a little more prominent at the base of the antenna; the lower portion of the face is quite plane and perpendicular and more conspicuous below due to a marked posterior recession of the eye. Combined with a slight, narrow, anterior eye recession this gives the eye below a narrowed, pinched appearance. Occiput thick and extending in almost equal thickness up to or close to the vertex; the pile is moderately abundant above and in the middle and consists of about 6 weak elements followed above by 12 exceptionally stout, barely curved bristles. The proboscis is rather small, and subcylindrical, with a blunt apex, which is tapered chiefly from below and bears stiff, apical pile; a dorsal ridge is absent; there are numerous, long hairs at the base below. Proboscis directed obliquely downward. Palpus of one segment with a close-set tuft of long, downwardly curved, slender, apical bristles and fine, ventral, lateral and dorsal pile. The antenna attached just below the upper third of the head; the first segment is at least twice as long as the second and these two are approximately equal to the third segment in length. Third segment only slightly wider than the second; it is gently tapered from the middle to the blunt apex and bears a short style only a little longer than the third segment; no microsegments present. The apex of the style bears a minute spine. First segment of antenna with 10 to 12 appressed setae above and a row of 3 long, stout, oblique bristles below. Second segment with 4 short setae above, 3 shorter bristles below.

Head, anterior aspect: The face below the antenna is a little less than two-sevenths the head width, slightly expanding below. Subepistomal area small, deeply concave and pubescent. The face is pubescent, with stiff, strongly curved, abundant pile on the upper half, some of which might be considered weak bristles. Weak, longer bristles are present below the middle and there are 5 pairs of exceptionally long, stout bristles along the middle of the upper epistomal margin; the lateral margin bears 2 to 4 additional pairs of bristles. The front is slightly divergent, the vertex slightly convergent; the front has 3 subocular bristles and below it laterally a patch of long, stiff pile. Vertex deeply excavated with slanting sides. Ocellarium moderately large with 2 pairs of short, slender bristles. Eyes with the central facets enlarged.

Thorax: The mesonotum laterally, together with the pleuron, is pollinose, but the middle of the mesonotum is more or less bare. The pile of the mesonotum is scanty and composed of very short, quite stout, basally thickened, suberect setae; there is a double to quadruple row of acrostical setae present, followed by a bare stripe. Dorsocentral elements are poorly differentiated anteriorly, as short as the remaining setae until opposite the postalar where there are 3 or 4 pairs of quite long bristles. Humerus with 2 stout bristles. The lateral bristles are quite long and stout, consisting of 2 notopleural, 1 supraalar, 1 suprapostalar, 2 or 3 postalar, and 1 pair of scutellar bristles. Scutellum thick, convex, pollinose with impressed rim and scattered, long, fine, erect pile. Propleuron with dense, long pile, the pronotum with 4 pairs of stout, long bristles. Upper mesopleuron with a patch of short, stout setae. Anterior extension with only a few long, fine hairs; the posterior mesopleuron, upper sternopleuron, the pteropleuron, and the anterior and posterior hypopleuron each have a patch of fine, erect, scattered pile, and a patch spot of pubescence is present. Metapleuron with a vertical row of 6 or 7 long, quite stout bristles. Metanotal slopes micropubescent only; metasternal slopes and the metasternum with a few, long, fine hairs; postmetacoxal area membranous; posterior basalare with 3 or 4 short bristles. Prosternum dissociated.

Legs: The middle and hind femora and their tibiae elongate and relatively slender; the anterior femur is a little thickened towards the base; the pile is stiff but flat appressed and setate; the bristles are rather stout but only of moderate length except at the apices of the tarsi, where they are exceptionally long. The hind femur bears at the apex 1 dorsomedial, 2 lateral and back from the apex 1 dorsomedial, and 1 dorsolateral bristle. There are 4 lateral, 12 ventral, 8 or 9 medial bristles. The hind tibia bears 4 or 5 dorsal, 4 lateral, 3 especially prominent ventral bristles on the outer half. The brush of setae extends nearly to the base and onto the first two tarsal segments and apices of others. Hind basitarsus elongate, as long as the next three segments. Hind coxa with 2 lateral and 3 ventral bristles; middle coxa with 6 lateral bristles and 10 to 12 anterior bristles; anterior coxa with 10 or more anterior bristles. Middle femur with 8 or more posterior, 5 or 6 ventral, 4 or 5 anteroventral bristles; its tibia has 2 posterodorsal, 1 dorsal, 4 posterior, 1 to 2 posteroventral and 2 long, stout, ventral bristles at the middle and beyond. Apex with 6 bristles. Anterior femur with 2 bristles anteriorly at apex and some 5 weak, slender, ventral bristles; its tibia has 2 basal, anterior bristles, 5 dorsal and 3 exceptionally stout posteroventral bristles; the bristle lying at the apical fourth is longer than the basitarsus. These tarsal bristles are exceptionally long and stout. All tarsi end in very long, slender, sharp claws, long slender pulvilli, and long, stout empodium.

Wings: The wings are exceptionally slender, hyaline. The subcostal cell is extremely narrow; marginal cell closed but with extremely short stalk or closed at the margin. The first submarginal cell is unusually long and takes origin before the end of the discal cell. The anterior branch of the third vein ends before the wing apex, the posterior branch ends far behind the wing apex. Three submarginal cells are present due to a rectangular crossvein near the base of the first submarginal cell. First posterior cell long and slender, the fourth closed and stalked and anteriorly convex. Second basal cell ends in 2 veins; anal cell closed; alula present, ambient vein complete.

Abdomen: The abdomen is considerably longer than the wing; at the base nearly as wide as the mesonotum but rather rapidly tapered; the terminal portion is much more narrow, the whole abdomen subcylindrical and the first tergite laterally swollen. The pile is minute, fine, flat appressed and setate. The sternites have long, fine pile on the basal segments. Lateral bristles are present as follows: 5 or 6 on the first tergite, 2 laterally in the middle on the second tergite and the remaining tergites with 2 to 4 stout, long bristles subpostmarginally on the lateral portion of the segment. Male with eight tergites, the female with seven, those tergites beyond lying in the ovipositor. Male terminalia large, elongate, not rotate. The superior forceps quite large and long and tend to enclose the cavity above and below. Gonopod quite short, basal and ventral. The proctiger is large and lies on the surface of the forceps dorsally. Hypandrium well developed. In the female terminalia the eighth segment is exceptionally long and cylindrical or slightly depressed; ninth segment also cylindrical and quite short. The tenth is depressed and bears short, small, dorsal spines and at the apex 2 conspicuous, spikelike spines. Ninth sternite greatly produced posteriorly as a flat, posteriorly notched plate; it has a wide, medial, longitudinal, ventral furrow.

This genus is a dominant element in South Africa where it apparently fills a niche similar to *Proctacanthus* Macquart in North America and *Satanas* Jacobson in central Asia. All of these three are rather similar in construction and size. *Alcimus* occasionally found in Asia.

Distribution: Palaearctic: *Alcimus ponticus* Bigot (1880). Ethiopian: *Alcimus aethiopicus* Bigot (1891); *alamanus* Walker (1849) [=*perlongus* Walker (1851)]; *angustipennis* Loew (1858); *biseriatus* Curran (1927); *brevipennis* Ricardo (1922); *cuthbertsoni* Hobby (1934); *doris* Curran (1927); *fraternus* Wiedemann (1819); *limbatus* Macquart (1838); *longurio* Loew (1858); *ludens* Wiedemann (1828); *mimus* Wiedemann (1828); *nigrescens* Ricardo (1922); *nigropalpus* Hobby (1934); *rubicundus* Hobby (1934); *rubiginosus* Gerstaecker (1871); *setifemoratus* Hobby (1934); *stenurus* Loew (1858); *taeniopus* Rondani (1873); *tigris* Karsch (1887); *tristrigatus* Loew (1858).

Oriental: *Alcimus hospes* Wiedemann (1819).

Country unknown: *Alcimus longipes* Macquart (1838); *sericans* Wiedemann (1828).

Refer to Ricardo (1921) for suggested additional synonymy. See addendum (p. 595).

Genus *Eichoichemus* Bigot

FIGURES 197, 316, 719, 746, 1440, 1449, 2399, 2402

Eichoichemus Bigot, Ann. Soc. Ent. France, ser. 3, vol. 5, p. 543, 1857. Type of genus: *Erax flavianalis* Macquart, 1848, by original designation.

Proctophorus Schiner, Verh. zool.-bot. Ges. Wien, vol. 16, p. 674, 1866. Type of genus: *Asilus pyrrhomystax* Wiedemann, 1828, by original designation.

Rather small flies, comparatively slender and cylindroid with reduced pile. The venation is rather like *Asilus* Linné. The face is moderately produced below and rises gently a short distance below the antenna. The pile is greatly reduced; bristles are long and slender. They may be recognized by the very blunt claws and the elongate, strongly compressed ovipositor of the female; ocellar bristles are usually very stout and long and acrostical and dorsocentral bristles well developed. In addition the convex scutellum is quite without any impressed rim. Length 12 to 16 mm.

Head, lateral aspect: The face is slightly produced on the lower two-thirds and begins to rise gently at the upper third of the face, beneath the antenna. The antenna is placed on a slight elevation. The eye is of medium length, strongly convex anteriorly, plane posteriorly for the greater part of its height but dorsally rising above the occiput and anteroventrally recessive on the lower fifth. The occiput is only moderately thick but is developed throughout its length; ventrally it has rather long but only moderately abundant, comparatively fine pile and a few, fine, scattered hairs in the middle. Bristles begin at the upper third, are stout, of medium length and but little curved. There are approximately 11 pairs of bristles. Proboscis cylindrical, comparatively slender from the dorsal aspect, very slightly widened from the base; the apex is bluntly rounded with a few, stiff, lateral hairs; the whole ventral surface in the middle except the outer third bears long, stiff, bristly hairs. Palpus comparatively short and robust, with rather numerous, dorsal, lateral and terminal bristles; the proboscis is directed chiefly downward. Antenna attached at the upper third of the head, of moderate length; the first segment is nearly twice as long as the second. The third segment is scarcely or not at all wider than the second and is a little shorter than the combined length of the first two segments; it is long oval, tapered at the base and the apex is without a microsegment and bears a short, distally swollen style of nearly the same length as the third segment; style with apical spine. Ventral surface of first and second segments with numerous, moderately long, slender, black bristles continued laterally and held obliquely; dorsal surface with similar but shorter bristles and only a little less numerous.

Head, anterior aspect: The face below antenna is a fifth of the head width and divergent at the epistoma. Subepistomal area is long, strongly oblique and rather narrow, concave and pubescent. The face is pubescent and apilose; beginning on the upper border of the gibbosity there are 2 or 3 vertical rows of long, quite stout, black bristles continued down to the epistomal margin; there are at least 16 bristles; all are curved, the upper ones extend horizontally; also across the epistoma continued down along the side margin are numerous, long, yellow bristles. The front is short, bare centrally with a row of 4 long, slender bristles along the eye margin with others only half as long and a close-set row of 5 more stout, equally long bristles set just dorsolateral to the antenna. Vertex moderately excavated with slanting sides; the ocellarium is large, set anterior and moderately high with exceptionally stout, long, divergent bristles between the ocelli and a somewhat shorter, more slender pair of bristles between the posterior ocelli. Anterior eye facets enlarged.

Thorax: The thorax is pollinose, mesonotum abrupt and convex both anteriorly and posteriorly. Pile of mesonotum very scanty, short, suberect, bristly setate; there is a prominent, double row of long, slender, backwardly curled acrostical elements that end about the middle of the mesonotum and consist of 8 pairs. The dorsocentral elements contain 3 short anterior elements followed, opposite the posterior level of the humerus, by long, stout, dorsocentral bristles with 7 or 8 in each row. Humerus with a number of stout, bristly setae. The following complement of long, quite stout bristles is found in the type of genus: 2 notopleural, 2 supraalar, 3 postalar, 1 pair of scutellar bristles. Scutellum thick, convex, pollinose, without trace of impressed rim; it has 3 fine, long, bristly hairs laterally and a deep basal crease. Propleuron with scanty, long, stiff pile; the pronotum has 2 pairs of stout bristles; the posterodorsal portion of the pronotum is protuberant, convex, with a deep posterior fissure, and bears 12 to 15 long, bristly hairs or very weak, black bristles. The upper border of the mesopleuron has 3 or 4 bristly hairs; its posterior margin below with 9 quite long, posteriorly directed, pale, stiff or semibristly hairs. Upper posterior sternopleuron and the anterior sternopleuron, the upper pteropleuron each with a tuft of long pile. Posthypopleuron with a vertical row of 5 or 6 very long, stiff hairs. Metapleuron with a vertical row of 8 or more quite long, distinct, black bristles. Lateral slopes of the metanotum micropubescent only. Posterior lateral slopes of the metasternum and the chitinized, rather wide ventral metasternum each with a few long hairs. Postmetacoxal area membranous; tegula with setae, posterior basalare pubescent only, anterior basalare with 3 or 4 long, slender, bristly hairs; squama with a multiple fringe.

Legs: All of the femora are moderately stout, the anterior pair rather strongly thickened on the dorsal portion and accentuated toward the base. Dorsal pile fine, appressed and setate on all the femora. In the type of genus the following complement of comparatively stout, moderately long bristles is present: on the hind femur 3 dorsolateral, and on the apical fifth with 1 placed somewhat higher and beyond it dorsomedially

2 bristles, 1 at the apex. There is a conspicuous, ventrolateral row of 5 bristles besides 2 or 3 long, slender, pale, basal and ventral bristles; hind tibia with 4 very weak dorsomedial, 3 stout dorsolateral, 3 ventral confined to the outer half; apex with 6 bristles. Middle femur with 2 posterodorsal subapical bristles similar to those of the hind femur and with 1 stout, anterior bristle beyond the middle, 5 or 6 anteroventral, besides 4 or 5 slender ventral bristles. This tibia has the dorsal bristles extremely weak; it has 2 or 3 similar, distal ventral bristles. Anterior femur with 6 long, slender, ventral bristles; anterior tibia with 1 or 2 anterodorsal bristles at the base, 3 or 4 short, posterodorsal, but with 4 conspicuous long, basally stout, posteroventral bristles. Tarsi end in slender, quite blunt claws only gently curved; long, thin, spatulate pulvilli; and long, empodium slightly thickened towards the base.

Wings: The marginal cell closed with a moderately long stalk; subcostal cell a little narrowed, the anterior branch of the third vein ends just above the wing apex; the posterior branch ends a greater distance behind. There is an oblique vein running from the second vein and connecting with the anterior branch of the third vein near its base, so that the base of the anterior branch of the third vein appears to be a rectangular crossvein taking origin exactly opposite the end of the discal cell. Fourth posterior cell closed with a long stalk, convex on all sides. The second posterior cell has no basal anterior swelling of any kind; second basal cell ends in 2 veins with a long, fused vein beyond; anal cell closed with a short stalk; alula large, ambient vein complete.

Abdomen: The abdomen is not quite as wide as the mesonotum, except on the first tergite which has its sides rather strongly produced. Whole abdomen subcylindrical or a little flattened on the first tergites and strongly tapered. Males with 8 tergites, the sixth and seventh a little shortened and the eighth quite short and liplike dorsally, a little longer laterally. Females with seven tergites, the eighth forms a rather long, slender ovipositor, strongly compressed laterally. Pile of abdomen short, scanty, bristly setate and appressed. Sides of first tergite with 5 to 7 pairs of long, slender bristles; the lateral margins posteriorly, especially near the corners, bear some weak, slender bristles or bristly hairs. Sternites with similar, long, bristly pile but no distinct bristles. First sternite apilose. Male terminalia prominent and elongate and similar to *Nerax*, new genus (see p. 478), in general form. Proctiger cylindrical and extended obliquely upward. Gonopod prominent ventrally meeting medially in front of the hypandrium. It bears a dense fringe of pile curled forward. In the females the eighth, ninth, and tenth segments are quite flat and compressed laterally beginning at the base of the moderately long eighth segment.

Distribution: Neotropical: *Eichoichemus connexus* Wiedemann (1828); *flavianalis* Macquart (1848); *melaleucus* Wiedemann (1828); *pyrrhomystax* Wiedemann (1828).

Genus *Promachus* Loew

FIGURES 343, 718, 798, 1385, 1393, 2207, 2270, 2408, 2467

Bactria Mergerle (Ms.) *in* Meigen, Systema Beschreibung . . . der zweiflugligen Insekten, vol. 2, p. 307, 1820. Name without characterization.

Trupanea Macquart, Diptères exotiques, vol. 1, pt. 2, p. 91, 1838. Type of genus: *Asilus maculatus* Fabricius, 1775, the seventeenth species, by original designation. Preoccupied by Schrank, 1803, Diptera.

Promachus Loew, Linnaea Entomologica, vol. 3, p. 390, 1848. Type of genus: *Asilus maculatus* Fabricius, 1775. Designated by Coquillett, 1910, the second of 5 species.

Telejoneura Rondani, Arch. Zool. Anat. Fisiol., vol. 3, p. 48, 1864. Unnecessary change of name.

Promachus has 5 subgenera: *Amblyonychus* Hermann; *Enagaedium* Engel; *Parapromachus*, new subgenus; *Philomachus* Karsch; and *Trypanoides* Becker.

A widely distributed group of large flies containing many species. Generally characterized by robust form with the moderately elongate abdomen strongly tapered, especially posteriorly. A few species are comparatively slender. All of the species groups and subgenera share a rather peculiar and distinctive venation, as well as bare metanotal callosities and all lack a microsegment at the base of the antennal style. There are three submarginal cells; the third submarginal cell and the base of the second submarginal cell are exceptionally narrow. The sharp claws and prominent terminalia separate them from *Mallophora* Macquart; in *Mallophora* the claws are very blunt and the body form is even more robust; *Promachina* Bromley is annectant, having blunt claws but large terminalia and a more slender, tapered abdomen. Length 17 to 40 mm.

Head, lateral aspect: The head is of medium length, the occiput moderately developed and sometimes unusually prominent. The eye is posteroventrally recessive on the lower fourth. The face is usually plane or has a low gibbosity on the lower half with generally a straight or plane margin; occasionally there is a pronounced gibbosity on the lower half. Proboscis very stout and strongly swollen towards the base, with a dense tuft of stiff, bristly hairs at the apex. Palpus large, elongate, of one segment, with numerous, stiff bristles or coarse, long hairs. The antenna is attached at the upper third of the head; the first segment is twice as long as the second. The third segment is approximately as long as the first segment, widest on the basal third and tapered beyond; it sometimes has a few, short setae dorsally; the style is stout, not quite as long as the remainder of the antenna, with a spine at tip, and with the apex either simple, slightly thickened, or flared and dilated. The pile of the occiput is dense, fine and long below; in some species the pile may be continued over the whole occiput, with bristles lacking. Generally the bristles begin at the middle of the head, or even continue down nearly to the bottom and become stronger and spikelike near the vertex, tending to form 2 rows near the upper eye corners.

Head, anterior aspect: The head is wide, with the face below the antenna a fifth the head width and moderately divergent below. The face is pubescent and it may be covered densely over its whole surface with mere coarse pile and no bristles, but more generally there is a triangle of exceptionally stout, long bristles on the lower half of the medial part and also stout bristles are usually continued down the sides of the subepistomal area. The upper half of the face usually bears a few, scattered hairs, but is sometimes rather densely pilose. The cheeks are prominent. Front short, rather sunken, with an ocular and subocular row of slender bristles and bristly hairs, each row containing numerous elements. Vertex moderately to deeply excavated, the sides slanting to almost vertical. Ocellarium moderately large but rather low. In some species there is pile between the ocelli, in others none; those which lack pile between the ocelli have a tuft of bristles, hairs, or both on each side behind the ocelli. The eyes are somewhat flattened anteriorly, with the medial facets enlarged.

Thorax: The thorax is pollinose, varying from densely to sparsely beset with bristly setae. Acrostical elements may or may not be differentiated. Dorsocentral elements usually begin at the transverse suture and become long and stout posteriorly; there may be merely a general lengthening of the dense pile posteriorly. Humerus bristly pilose. The lateral complement of bristles consists of 2 notopleural, 1 supraalar, 1 suprapostalar, 2 or 3 postalar, 3 or 4 pairs of scutellar bristles, and sometimes as many more upon the posterior portion of the disc. The scutellum is quite thick, with some evidence of a rim in some species, in others with none. Species like *Parapromachus leoninus* Loew lack notopleural bristles, have only the most slender bristles above the wing or on the postalar and lack them upon the scutellum where the whole surface and margin is densely, long, coarse pilose. Similarly, this species is densely pilose on the pleuron and bristles are lacking on the metapleuron, which is also densely pilose. Generally the upper and posterior surfaces of the mesopleuron are coarsely pilose, or even have bristles. The posterior basalare has several bristles. Postmetacoxal area membranous, the metasternum pilose. Prosternum dissociated.

Legs: All the femora are stout, but only the first 4 are swollen. Bristles are quite stout and comparatively numerous. On the hind femur are 3 to 5 dorsolateral bristles; the last is located some distance from the apex, but usually quite close to the apex 1 or 2 stout bristles dorsomedially. Ventrolateral margin with 2 to 6 stout bristles; femora and tibiae with scattered, coarse, subappressed pile, and sometimes a conspicuous fringe of long, coarse hairs ventrally and even longer elements ventromedially; again, as in *Parapromachus leoninus* the legs are densely covered with shaggy pile, and reduced bristles, especially on the tibiae, and their basitarsi are greatly shortened. Middle femur with 2 or 3 stout bristles along the middle of the anterior and posterior surfaces and frequently ventral and ventrolateral bristles as well. Anterior femur with 1 to 2 posterodorsal bristles near the middle and sometimes an anteroventral bristle. The hind tibia usually has 2 or 3 dorsolateral bristles, including a stout element at the base and sometimes a few dorsomedial bristles, and from 1 or 2 distal ventral bristles; apex with 6 bristles. The anterior and middle tibia have a nearly similar complement of bristles. Basitarsus as long as the next two or sometimes the next three segments. Claws sharp, the pulvilli well developed, the empodium bladelike.

Wings: The wings are long, tending to become a little more slender or pointed apically, with the anal lobe often conspicuously extended, leaving the base of the wing broad. Marginal cell closed with a short stalk. The basal portion of the second submarginal cell is quite narrow and divided at or usually beyond the posterior crossvein by a short, rectangular crossvein, so that the wing has 3 submarginal cells. The second submarginal cell is deeply flared and widened distally. The anterior branch of the third vein ends well above the wing apex and the posterior branch ends far behind. Fourth posterior cell closed and stalked; the anal cell closed; the alula large; the ambient vein complete.

Abdomen: The abdomen varies from broad and robust basally, narrowed and tapered only on the last three or four segments to species in which it is comparatively slender basally and gently and gradually tapered throughout its entire length. The wings may reach to the end of the abdomen, but are usually a little shorter. The surface is pollinose, frequently with transverse bands of pale pollen along the posterior margin. Bristles are confined to the first tergite; the pile is coarse, suberect and considerably longer on the first two tergites and laterally on the third or fourth tergites. Sternal pile is coarse and long. Males have eight well developed tergites, the last occasionally being of reduced length dorsally. Females sometimes with only four or five segments which have not been incorporated within the ovipositor; in most species the ovipositor may contain as few as three segments. Male terminalia generally with elongate, distally apposed forceps, conspicuous, erect proctiger and a three-pronged aedeagus which may extend far beyond the forceps. The gonopod is generally only half as long as the forceps and the hypandrium is short. The ovipositor is only moderately compressed laterally and often quite elongate, or as in other groups, short and only twice as high as wide.

Distribution: Nearctic: *Promachus albifacies* Williston (1885); *aldrichii* Hine (1911); *atrox* Bromley (1940); *bastardii* Macquart (1838) [=*laevinus* Walker (1849), *philadelphicus* Schiner (1867), *rubiginis* Walker (1851), *ultimus* Walker (1851)]; *dimidiatus* Curran (1927); *fitchii* Osten Sacken (1878); *giganteus* Hine (1911); *hinei* Bromley (1931); *minusculus* Hine (1911); *nigripes* Hine (1911); *nigropilosus* Schaeffer (1916); *oklahomensis* Pritchard (1935); *painteri* Bromley (1934); *princeps* Williston (1884); *quadratus* Wiedemann (1821); *rufipes* Fabricius (1775); *sackeni* Hine (1911); *texanus* Bromley (1934); *vertebratus* Say (1823).

Neotropical: *Promachus anceps* Osten Sacken (1887); *?annularis* Fabricius (1805); *breviusculus* Walker (1855); *captans* Walker (1851); *cinctus* Bellardi (1861); *flavifasciatus* Macquart (1838); *forfex* Osten Sacken (1887); *fuscipennis* Macquart (1846); *gracilis* Macquart (1838); *hirtiventris* Macquart (1849); *horni* Bromley (1935); *incisuralis* Macquart (1838); *lateralis Walker* (1860); *macquartii* Rondani (1848); *magnus* Bellardi (1861); *mitescens* Walker (1851): *nobilis* Osten Sacken (1887); *perfectus* Walker (1851); *quadratus* Bellardi (1861); *quatuorlineatus* Macquart (1838); *spissibarbis* Macquart (1846); *substitulus* Walker (1851); *truquii* Bellardi (1861); *venustus* Carrera and d'Andretta (1950); *wiedemanni* Schiner (1867).

Palaearctic: *Promachus aberrans* Paramonov (1931): *aegyptiacus* Efflatoun (1929): *albopilosus* Macquart (1855): *anicius* Walker (1849); *argentipennis* Efflatoun (1929): *ater Coquillett* (1898); *canus* Wiedemann (1818): *chinensis* Ricardo (1920); *consanguineus* Macquart (1838); *cypricus* Rondani (1856); *djanetianus* Seguy (1938); *gomerae* Frey (1936); *griseiventris* Becker in Becker and Stein (1913); *laciniosus* Becker (1907); *latitarsatus* Macquart (1838); *leontochlaenus* Loew (1870); *leucopygus* Walker (1857); *maculatus* Fabricius (1775); *microlabis* Loew (1857); *mustela* Loew (1854); *pallipennis* Macquart (1855); *palmensis* Frey (1936); *pictus* Meigen (1820); *rueppelli* Loew (1854); *rufipes* Macquart (1849): *sinaiticus* Efflatoun (1934); *testaceipes* Macquart (1855); *tewfiki* Efflatoun (1929); *vexator* Becker (1908); *viridiventris* Macquart (1855); *yesonicus* Bigot (1887).

Ethiopian: *Promachus abdominalis* Ricardo (1920); *acuminata* Hobby (1936); *aedithus* Walker (1849); *albicinctus* Ricardo (1900); *amastrus* Walker (1849); *apicalis* Adams (1905); *argyropus* Bezzi (1906); *aurifacies* Hobby (1933); *bicolor* Ricardo (1900); *binucleatus* Bezzi (1908): *bomensis* Curran (1927); *bottegoi* Corti (1895); *brevipennis* Ricardo (1920); *breviventris* Ricardo (1920); *caffer* Macquart (1846); *calcarata* Hobby (1936); *capreolus* Loew (1858); *carpenteri* Hobby (1936); *chalcops* Speiser (1910); *cinereus* Ricardo (1925); *clavigerus* Bromley (1930); *conradti* Hobby (1936); *cornuta* Hobby (1936); *crassifemorata* Hobby (1936); *dorso* Walker (1849); *entebbensis* Hobby (1936); *enucleatus* Karsch (1887); *erythrosceles* Hobby (1936); *fasciatus* Fabricius (1775) [=*aequalis* Loew (1858)]; *flavibarbis* Adams (1905); *flavopilosus* Ricardo (1920); *fraterculus* Walker (1855); *fulvipes* Macquart (1838); *gossypiatus* Speiser (1910); *guineensis* Wiedemann (1824); *hastata* Hobby (1936); *hirsutus* Ricardo (1925); *hobbyi* Bromley (1942); *hypoleucochaetus* Bezzi (1908); *lemur* Bromley (1930); *madagascarensis* Bromley (1942); *mediospinosus* Speiser (1913); *mesacantha* Hobby (1936); *mesorhachis* Hobby (1936); *metoxa* Oldroyd (1939); *mixta* Hobby (1936); *neavei* Hobby (1936); *negligens* Adams (1905); *nigropennipes* Hobby (1933); *niveicincta* Hobby (1936); *obscuripes* Ricardo (1920); *parvus* Bromley (1930); *poetinus* Walker (1849); *pontifex* Karsch (1887); *productus* Walker (1851); *promiscua* Hobby (1936); *rapax* Gerstaecker (1871); *rectangularis* Loew (1854); *rex* Karsch (1887); *robertii* Macquart (1838); *rufescens* Ricardo (1920); *rufihumeralis* Hobby (1933); *rufotibialis* Hobby (1936); *scalaris* Loew (1858); *scilurus* Walker (1849); *scotti* Oldroyd (1940); *senegalensis* Macquart (1838); *simpsoni* Ricardo (1920); *snowi* Hobby (1936); *sokotrae* Ricardo (1903); *solus* Adams (1905); *speiseri* Hobby (1936); *subtilis* Bromley (1935); *transvaalensis* Hobby (1933); *trichozonus* Loew (1858); *turinus* Walker (1849); *ugandiensis* Ricardo (1920); *vagator* Wiedemann (1828) [=*rhopalocerus* Karsch (1887)]; *venatrix* Hobby (1936); *venerabilis* Walker (1857); *versicolor* Hobby (1936); *wollastoni* Hobby (1936); *xanthotrichus* Bezzi (1908); *zenkeri* Hobby (1936).

Oriental: *Promachus albopilosus* Rondani (1875); *amorges* Walker (1849); *apicalis* Macquart (1838); *apivorus* Walker (1860); *beesoni* Ricardo (1921); *binghamensis* Ricardo (1920); *calanus* Walker (1851); *ceylanicus* Macquart (1838); *confinis* Walker (1855); *contractus* Walker (1851): *copillus* Walker (1849): *desmopygus* de Meijere (1914); *duvaucelii* Macquart (1838): *externetestaceus* Macquart (1849): *felinus* Wulp (1872); *flavibarbis* Macquart (1838); *forcipatus* Schiner (1868); *formosanus* Matsumura (1916); *fulviventris* Becker (1925); *ghumtiensis* Bromley (1935); *gobares* Walker (1849); *heteropterus* Macquart (1838); *horishanus* Matsumura (1916); *indigenus* Becker (1925); *innotabilis* Walker (1855); *inornatus* Wulp (1872); *inserens* Walker (1857); *leoninus* Loew (1848); *leucopareus* Wulp (1872); *leucotrichodes* Bigot (1892); *maculipes* Walker (1855); *maculosus* Macquart (1834); *manilliensis* Macquart (1838); *marcii* Macquart (1838); *melampygus* Wulp (1872); *nicobarensis* Schiner (1868); *nigribarbatus* Becker (1925); *opacus* Becker (1925); *orientalis* Macquart (1838); *pallidus* Ricardo (1921); *philipinus* Ricardo (1920); *plutonicus* Walker (1861); *pseudomaculatus* Ricardo (1920); *ramkrishnai* Bromley (1938); *rufibarbis* Macquart (1848); *rufimystaceus* Macquart (1849); *rufoungulatus* Macquart (1838); *sagittifer* Walker (1851); *telifer* Walker (1851); *temerarius* Walker (1851); *triflagellatus* Frey (1923); *tristis* Bigot (1892); *univentris* Walker (1851); *varipes* Macquart (1838); *vittula* Wulp (1880); *westermanni* Macquart (1838); *xanthostoma* Wulp (1872); *yerburiensis* Ricardo (1920).

Australian: *Promachus addens* Walker (1861); *albicauda* Wulp (1872); *argentipes* de Meijere (1913); *bifasciatus* Macquart (1838) [=*strenuus* Walker (1860)]; *brisbanensis* Hardy (1921); *calorificus* Walker (1860); *canescens* Walker (1855); *clausus* Macquart (1846); *complens* Walker (1861); *concolor* Walker (1861); *contradicens* Walker (1859); *doddi* Ricardo (1913); *floccosus* Kirby (1884); *gilolonus* Walker (1862); *grandis* Macquart (1838); *interponens* Walker (1861); *noscibilis* Austen (1915); *raptor* Austen (1915); *rufipes* Macquart (1848); *tasmanensis* Macquart (1847); *transactus* Walker (1864); *triumphans* Bezzi (1928).

Country unknown: *Promachus albibarbis* Macquart (1838); *castanipes* Macquart (1838); *dorsalis* Macquart (1838); *geminus* Walker (1849); *incisus* Macquart (1838); *longiterebratus* Macquart (1838); ?*moerens* Wiedemann (1828); *porrectus* Walker (1851); *rufipes* Macquart (1838); *separatus* Walker (1855); *tibialis* Macquart (1838); *vicinus* Macquart (1838).

Malloch (1916, 1917) contrasts the pupae of *Promachus fitchii* and *vertebratus*.

Engel (1930, 1932) was the first person to divide the genus *Promachus* into subgenera. In his 2 papers the genera *Philomachus* Karsch and *Trypanoides* Becker were treated as subgenera and I believe he was entirely correct in his approach. Engel also created a new subgenus, *Enagaedium* Engel, characterized by a peculiar ovipositor. *Parapromachus*, new subgenus for *Promachus leoninus* is separated by the absence of bristles on face and scutellum and the short, stout, robust abdomen and less sharp claws.

The *Promachus* complex is separated from the *Nerax* group of genera by the absence of any extensive gibbosity on the face as well as the character of venation; the venation allies it to *Mallophora* Macquart to which it is connected by *Promachina* Bromley and *Parapromachus*, new subgenus. The blunt claws and reduced male and female terminalia separate *Mallophora* from *Promachus*.

Hobby (1936) has suggested on what are slender grounds the use of the name *Bactria* Megerle, which was a manuscript name Megerle added by brief mention only to the end of the description by Meigen (1820) of *Asilus pictus*, and without any differentiation or distinguishing characters mentioned. Kertész (1909) though aware of *Bactria* rejected it and though Coquillett (1910) adopted it, the name has been rejected by nearly all authors. On the principle of conservation of nomenclature, I have followed Engel in using *Promachus*. Ricardo (1920) suggests other synonymy. See addendum (p. 595).

KEY TO SUBGENERA OF PROMACHUS

1. Apex of antennal style conspicuously dilated. PHILOMACHUS Karsch
Apex of antennal style pointed or at most slightly flattened . 2

2. Short, stout species; the claws stout and only moderately sharpened. The ambient vein ends at the beginning of the anal cell; scutellum thick, long pilose, without bristles. PARAPROMACHUS, new subgenus
Ambient vein complete; claws slender, sharp; not short, robust species; scutellum usually with bristles and pile . 3

3. Males 4
Females 6

4. Male terminalia large and prominent and generally with a conspicuous dorsal tuft of white or silvery pile. PROMACHUS Loew
Male terminalia small, reduced in size and generally without conspicuous, white tufts of hair 5

5. Second antennal segment twice as long as wide; margin of subepistoma with 4 or 5 quite stout bristles; palpus slender. Superior forceps elongate, arched outwardly and recurved at apex, hollowed medially, leaving a conspicuous internal cavity; aedeagus tubular, extended beyond forceps. ENAGAEDIUM Engel
Second antennal segment as long as wide; margin of epistoma generally with coarse, long hairs or slender, bristly hairs; palpus stout. Superior forceps elongate, its inner dorsal margin not arched, the cavity enclosing proctiger not enlarged; aedeagus very short . . . . . TRYPANOIDES Becker

6. Ovipositor short, composed of segments 8 to 10; the abdomen composed of segments 1 to 7 7
Ovipositor elongate, slender, the component parts each rather long and attenuate, and comprising segments 6 to 10; abdomen composed of segments 1 to 5 . . TRYPANOIDES Becker

7. Ninth segment, except the base, and the proctiger (tenth segment) extremely flattened and compressed laterally; the tenth wedged into the ninth quite as in *Eutolmus* Loew. ENAGAEDIUM Engel
Segments of ovipositor conical or cylindroid, the last segment slightly compressed; tenth segment not wedged into the ninth . . . . PROMACHUS Loew

Subgenus *Amblyonychus* Hermann

Amblyonychus Hermann, Archiv Naturgesch., *Abt.* A., vol. 87, p. 118, 1921. Type of subgenus: *Promachus wiedemanni* Schiner, 1867, by original designation.

Hermann (1921) listed a number of species of Asilids and Mydaids from Paraguay and among these proposes, without characterization, the name *Amblyonychus* as subgenus of *Promachus* Loew with *Promachus wiedemanni* as type of genus. Since the name is obviously derived from the Greek, *amblys*, meaning blunt, obtuse or dull, with reference to the claws, I suspect that Hermann has here anticipated Bromley (1934) in the erection of the genus *Promachina* Bromley, and we may have to use Hermann's name. Since I have not seen specimens of Schiner's species I refrain from any definite determination as to the status of these names. It should be remarked that *Promachina* is a rather distinct New World genus.

Subgenus *Enagaedium* Engel

FIGURES 313, 795, 1380, 1389, 2192, 2215, 2423, 2424

Enagaedium Engel, Konowia, vol. 8, p. 459, 1929. Type of subgenus: *Asilus poetinus* Walker, 1849, by original designation.

Comparatively small, rather slender flies with a distinctive ovipositor, which is very similar to the ovipositor of *Dysmachus* Loew and *Eutolmus* Loew, and of which it may be considered a parallelism. The ninth and tenth segments are quite flat appressed laterally with the tenth segment wedged into the ninth. Engel gave only one species for this subgenus and I have seen only one. Length 18 to 24 mm.

Head, lateral aspect: The face is quite plane. The proboscis is robust with well developed dorsal ridge and quite short, unusually regular coronal fringe of apical pile in one row. Occiput at upper eye corners with 4 stout bristles and only the lower eighth of occiput expanded on account of the recession of the eye. Palpus unusually slender and with stout apical bristles. The third antennal segment is slender and long oval. The moderately long style is scarcely or not at all thickened at the apex.

Head, anterior aspect: The face and front are unusually wide. The face is only slightly divergent below and bears only moderately stout bristles above the epistomal margin; these stout bristles are continued down along the sides of the subepistoma. There are more slender bristles above on the lower half of the face and scattered, rather numerous, coarse hairs on the upper half of the face with the midline bare. The front is short with a prominent, transverse groove on its anterior portion before the antennae and the antennae are set far apart. Vertex deeply excavated but with broadly sloping sides; ocellarium exceptionally low and without pile or bristles, except for 2 or 3 fine, postocellar hairs.

Thorax: The scutellum and mesonotum have strongly differentiated bristles, the acrostical pile well differentiated. Surface of scutellum pollinose with stout bristles along the middle in addition to the marginal bristles and with numerous, long, coarse hairs; margin of scutellum rimmed. The pronotum has a few, moderately stout bristles; the lateral propleuron is densely pilose; the whole of the mesopleuron is pilose, more densely on the posterior half, and there is extensive pile on the upper sternopleuron, the posterior hypopleuron, the posterior pteropleuron and a wide band of very slender bristles or bristly pile on the metapleuron. Posterior basalare with only weak bristles. The lateral metasternum posteriorly and the ventral metasternum are densely, long pilose. Postmetacoxal area membranous. Coxa at most with weak bristles.

Legs: the femora are comparatively short and stout, bristles of the legs are stout and long. On the hind femur are 6 dorsolateral bristles, the last two forming part of an apical and subapical dorsal, transverse cluster of bristles, and the latter cluster contains 1 lateral element. There are 2 ventrolateral bristles and 2 stout, apical, dorsomedial bristles. There is a long, basal ventromedial bristle and long hairs on the basal half, and bushy, coarse, black pile on the outer half. The hind basitarsus is rather long, equal to the next three segments; middle basitarsus short and anterior basitarsus intermediate between the two.

Wings: The wings with characteristic venation; the third submarginal cell is less narrow than in many species; the apex of the anal lobe is moderately extended.

Abdomen: The abdomen is rather narrow at base and not as wide as the mesonotum, except on the first tergite. Sides of the first three tergites with comparatively long pile. Eighth segment of male long and well developed. Females with only seven tergites not included in the ovipositor, which is sharply and clearly differentiated. Male terminalia exceptionally long and slender with a long, prominent hypandrium which appears to be fused laterally to the base of the superior forceps. Gonopod half as long as the forceps, the latter is rather curved, and as they are apposed medially, a large open space is enclosed. The three-part aedeagus extends beyond. Female ovipositor composed of the broad, cylindrical, eighth segment, approximately as long as the following two segments but, however, shorter above and longer below; it is strongly compressed except at the base. The ninth and tenth segments are strongly and completely compressed laterally but high, with a sharply pointed apex, but with the halves ventrally flared, and divergent; tenth segment wedged into the ninth.

Parapromachus, new subgenus

FIGURES 317, 1388, 1394

Type of subgenus: *Promachus leoninus* Loew, 1848.

Small, rather short, robust flies, characterized by the rather fine, dense pile, more or less appressed on most of the abdomen and the middle of the mesonotum. Length 16 to 22 mm.

Head, lateral aspect: The face is plane; occiput without bristles but with dense, fine pile throughout. Antenna widely separated and the third segment is comparatively broad at base and attenuate with a short style which is only slightly thickened at the apex.

Head. anterior aspect: The face is rather wide and divergent below; it has no bristles but is densely covered with long, fine pile and with similar, abundant pile on the sides of the front and vertex. The vertex is rather deeply excavated with sloping sides and quite small ocellarium which is also pilose.

Thorax: The mesonotum is rather high, densely covered with rather fine pile, including a broad, anterior medial, longitudinal band of pile which is narrowly differentiated by a bare stripe on the anterior third of the mesonotum. Notopleural bristles absent. There are 1 slender supraalar and 3 postalar bristles. Bristles absent on the scutellum; its margin and the whole surface is densely long, rather fine pilose. Whole of the mesopleuron densely pilose as well as the posterior half of the sternopleuron, pteropleuron and hypopleuron, the lateral metasternum and nearly the whole of the ventral metasternum. Postmetacoxal area membranous.

Legs: The femora are unusually short and stout, such bristles as are present are short and stout. The hind femur has 3 dorsolateral bristles and 2 or 3 ventrolateral bristles; 1 bristle of the former group forms part of a transverse, subapical cluster of 3 bristles; and there are 2 dorsomedial apical bristles. Hind tibia with 1 dorsolateral distal bristle, absent in the female and 1 ventrolateral distal bristle. All the tarsal segments are rather shortened; the basitarsus is rather robust. Pile of the legs dense, especially on the first 4 tibiae, which lack bristles. Claws moderately sharp at the apex, the pulvilli and empodium long.

Wings: The wings are comparatively broad and extend to the apex of the terminalia; the venation is like *Promachus* Loew; anal lobe is moderately extended distally. The ambient vein is evanescent on the anal lobe.

Abdomen: The abdomen is short and robust, mostly pale pollinose with dark, dorsal basal bands and rather long, dense, appressed pile on the fourth to seventh segments and still longer, erect, shaggy pile on the sides of the basal segments. The first tergite is without bristles or has only very weak elements. Male terminalia typical for *Promachus* but shorter. Aedeagus exceptionally long, extending well beyond the forceps and with three tubular prongs. Female with short ovipositor moderately compressed laterally; the eighth segment is distinctly longer than the remaining two, which are compressed to a similar extent. Only one species is known in *Parapromachus*.

Subgenus *Philomachus* Karsch

FIGURES 374, 381, 733, 1441, 1450

Philomachus Karsch, Berliner Ent. Zeitschr., vol. 31, p. 375, 1887. Type of subgenus: *Asilus vagator* Wiedemann, 1828, as *Philomachus rhopalocerus* Karsch, 1887, by monotypy.

Flies of medium size or larger with three submarginal cells, the venation like that of *Promachus* Loew, to which they are closely related. They are recognizable by the straight face and wide lamella at the end of the antennal style, which is more likely to be conspicuous in the males. They are dark colored, pollinose flies with rather long pile on the thorax, head and legs, the base of the abdomen and sternites. Wings long and slender. Abdomen strongly tapered. Length 17 to 20 mm.

Head, lateral aspect: The face is moderately produced but plane and more conspicuous below. Occiput unusually thick but most prominent medially and sloping gently outward to the eye margin; pile quite dense and unusually long and fine, continued dense medially on the dorsal half with bristles beginning above the middle of the head; the first 3 bristles are turned downward and there are 7 longer, quite stout, slightly curved dorsal bristles. Proboscis stout and rather long, and cylindrical apically, strongly swollen toward the base from the dorsal aspect. Palpus elongate, large, cylindrical, with numerous, long, bristly hairs and apical bristles. The antenna is attached a little below the upper third of the head, of only moderate length but slender; the first segment is slightly more than twice as long as the second. The third segment is attenuate distally to about one-third its maximum width, it is a little longer than the first segment, without microsegment and the style is 1½ times as long as the third segment and bears a wide, spatulate, flat lamella at the apex beyond which is a bristly spine.

Head, anterior aspect: The face below the antenna is less than a third the head width and slightly widened at the epistoma. Face densely pubescent, with considerable long, bristly pile on the dorsal half and 2 or 3 long, stout bristles medially below the middle of the face and also with a row of 7 pairs extending across the epistoma in front. Down the upper half of the lateral subepistomal margin are additional bristles. Front pollinose, with an irregular, lateral row of 12 long, slender, black bristles and a patch of pale pile in front of each antenna. Vertex deeply excavated, but with oblique sides; the ocellarium is quite small, low and elongate with small ocelli and bearing 2 or 3 pairs of slender hairs between the posterior ocelli and several additional hairs behind the ocelli.

Thorax: The whole thorax is pollinose; pile of mesonotum moderately abundant, rather long and bristly. There is a double irregular row of acrostical elements anteriorly merging into the single row behind the humerus. Dorsocentral elements are poorly differentiated anteriorly but become long and strong behind the suture where there are at least 4 such elements. Humerus densely long, bristly pilose. The exceptionally stout, long, lateral bristles consist of 2 notopleural, 1 supraalar, 1 suprapostalar, 2 postalar, and the scutellar margin has 6 pairs of long, slender bristles; the middle of the disc bears 4 pairs of equally long, perhaps stouter, black bristles. Mesonotal bristles black, the posterior scutellar bristles pale. Scutellum thick, convex with impressed rim and with considerable, fine, long, discal pile. Propleuron everywhere densely long, fine pilose; only the pronotum with bristles, consisting of 2 or 3 pairs of slender elements; the fine, long, dense pile is continued anteriorly over the whole anterior coxa with bristles entirely absent. A tuft of long, fine, dense pile present dorsally and posteriorly on the mesopleuron, anteriorly and middorsally on the sternopleuron, on the pteropleuron, and a wide band of somewhat stiffer pile on the posthypopleuron. Metapleuron with a vertical band of long, slender, bristly hairs. Lateral slopes of the metanotum micropubescent only; postmetacoxal area membranous; tegula with minute, short setae; posterior basalare with a tuft of 5 or 6 stiff or bristly hairs.

Legs: The femora are all short and stout and a little swollen. The anterior 4 femora are distinctly more swollen than the hind pair. Dorsal and anterior pile of the hind femur fine, short and appressed. The hind femur has stout bristles, 4 ventrolateral beginning at the basal third; at the subapex 3 exceptionally long bristles and at the apex 2 medial bristles; also 2 long, ventral, basal bristles and a fringe of fine, long hairs dorsally, medially and ventrally. Hind tibia with 2 dorsomedial bristles on the basal half, 1 dorsolateral at the base, 1 ventrolateral, 2 long, stout, lateral bristles near the middle and 2 ventral bristles. Middle femur with an anterior bristle near the base, a stout bristle at the outer fourth, another near the apex posterodorsally. Anterior femur with numerous, fine, long hairs ventrally and with considerable fine, long pile dorsally. Anterior tibia with a stout anterodorsal at the base, 7 stout, short, posterodorsal, 2 long, posteroventral bristles on the outer half and abundant, long, fine pile ventrally. Anterior basitarsus only 1½ times as long as the second segment; all tarsal segments short. Claws slender, bluntly pointed; pulvilli long and the empodium long.

Wings: The venation similar to *Promachus*.

Abdomen: Pile of abdomen long and dense on the sides of the first three tergites and long across the middles of the first two tergites; it is especially dense and tufted laterally on the first tergite where there are also 2 or 3 slender, pale bristles; posterolateral margins of the second, third and fourth tergites with a row of very slender bristles or bristly hairs and with stiff pile similarly placed on the remaining tergites; first sternite apilose, the second to the fourth with abundant, long, fine pile. Ovipositor short, the eighth segment as long as the seventh, the whole ovipositor strongly cylindroid and as wide as high. Ninth and tenth segments both short; the ninth is strongly slanted downward dorsally.

Two species fall into this subgenus, *Philomachus hypoleucochaetus* and *vagator*.

Subgenus *Trypanoides* Becker

Figures 312, 730, 1382, 1391, 2193, 2212

Trypanoides Becker, Ent. Mitt., vol. 14, p. 71, 1925. Type of subgenus: *Trupanea testaccipes* Macquart, 1855. Designated by Engel, 1926.

Large flies principally distinguished by the extensive ovipositor in the females which incorporate the last 5 segments of the abdomen, leaving only the first 5 with the abdomen proper. The terminal segments tend to be lengthened, slender, attenuate and of progressively diminished size. Length 20 to 35 mm.

Head: The face is plane or extended into a short, plane gibbosity. Generally with long, stout bristles on the lower half of the face and the subepistomal margin, and long, coarse pile on the upper half of the face. The third antennal segment is often attenuate from the base instead of oval. The style is long, pointed and only slightly thickened at apex. The vertex is deeply excavated, the ocellarium without interocellar pile and bristles.

Thorax: The mesonotum and scutellum with strong bristles and with acrostical setae more or less differentiated.

Legs: The legs have numerous, stout bristles.

Wings: The wings are of moderate length, the anal lobe only slightly protrusive at its apex. Ambient vein complete.

Abdomen: The abdomen presents an unusually short, robust form, and in females accentuated by the long, rather slender ovipositor which incorporates at least five segments. Some of the males in North American species have the tufts of silvery hairs dorsally upon the superior forceps as in genus *Promachus sensu stricto* and emphasizes the closeness of these two groups, which can be separated only by an overlapping female character. The definition of this subgenus is here drawn largely from Old World species like *Trypanoides yerburiensis*. Of the American species known to me, *Trypanoides rufipes*, *vertebratus*, and *bastardii* fall into this subgenus. As far as known to me the Old World species which fall into this subgenus are *Trypanoides fulviventris*, *indigenus*, *nigribarbatus*, *testaceipes* and *yerburiensis*.

Genus *Promachina* Bromley

Figures 346, 744, 1383, 1392, 2190, 2213

Promachina Bromley, Ann. Ent. Soc. Amer., vol. 27, p. 96, 1934. Type of genus: *Promachus trapezoidalis* Bellardi, 1861, by original designation.

These are generally smaller than the species of *Promachus* Loew and they are robust, with the male terminalia and female ovipositor nearly like *Trypanoides* Becker, subgenus, but they are distinguished by the blunt claws with cuplike apex which allies them to *Mallophora* Macquart. Length 15 to 25 mm.

Head, lateral aspect: The face is plane or with the lower half barely raised or slightly elevated. Upper occipital bristles strongly developed. The proboscis is stout and somewhat swollen on the basal half, without dorsal ridge and the subapex bears a transverse crease beyond which there is apical pile. Palpus comparatively small and short with many stout dorsal bristles. The third antennal segment is slender and unusually elongate; the style is of moderate length, only slightly thickened at the apex and blunty pointed.

Head, anterior aspect: The face is unusually narrow and below the antenna it is scarcely a seventh the head width; it is strongly divergent below. The lower half and the sides below the subepistoma bear numerous, long, quite slender bristles or bristly hairs; the upper half of face has fewer but similar elements and over the whole face the lateral margins tend to lack pile or bristles; whole face surface densely micropubescent. Front pollinose with a dense patch of bristles on each side immediately above the antenna and on the upper front a single row beside the eye, which is continued over the vertex. The vertex is not wider than the upper face and rather deeply excavated especially posteriorly; the ocellarium is prominent with 1 or 2 hairs between the ocelli and a row of other hairs behind.

Thorax: The mesonotal bristles are quite strong and stout and typical, with well developed, short, curved acrostical bristles. Scutellar marginal bristles long, numerous but quite slender. The middle of the disc, however, bears 1 to several pairs of bristles as stout as those of the mesonotum. On the pleuron the pronotum has stout bristles. Only the upper and posterior margins of the mesopleuron with pile. Pteropleuron and posthypopleuron with considerable pile. Metapleuron with a wide band of long, bristly hairs. Metasternum pilose laterally and below. Postmetacoxal area membranous.

Legs: The legs of moderate length but rather stout, the bristles are comparatively reduced in number. Hind femur and its tibia with a few, stout bristles dorsolaterally; the tibia has 2 ventrolateral bristles on the outer half. The middle femur has a stout bristle near the apex both anteriorly and posteriorly. The hind basitarsus is short and stout, scarcely longer than the next 2 segments combined. Anterior and middle basitarsus also short. The claws are characteristically quite blunt at the apex and with the apex cupped. They are somewhat less blunt and stout than in *Mallophora* Macquart.

Wings: The wings are of moderate length, with venation like *Promachus* and the anal lobe moderately extended distally.

Abdomen: The abdomen is wide at the base; the second tergite is nearly as wide as the mesonotum; the abdomen is comparatively short and rather strongly tapered and the wings reach to the base of the terminalia. The eighth tergite is quite short and reduced. The terminalia is very similar to *Trypanoides* Becker a subgenus of *Promachus*.

Distribution: Neotropical: *Promachina annularis* Fabricius (1805); *barbiellinii* Curran (1935); *eraxoides* Curran (1935); *nigripes* Fabricius (1787); *pilosa* Wilcox (1937); *pulchellus* Bellardi (1861); *trapezoidalis* Bellardi (1861); *trichonotus* Wiedemann (1828).

Genus *Mallophora* Macquart

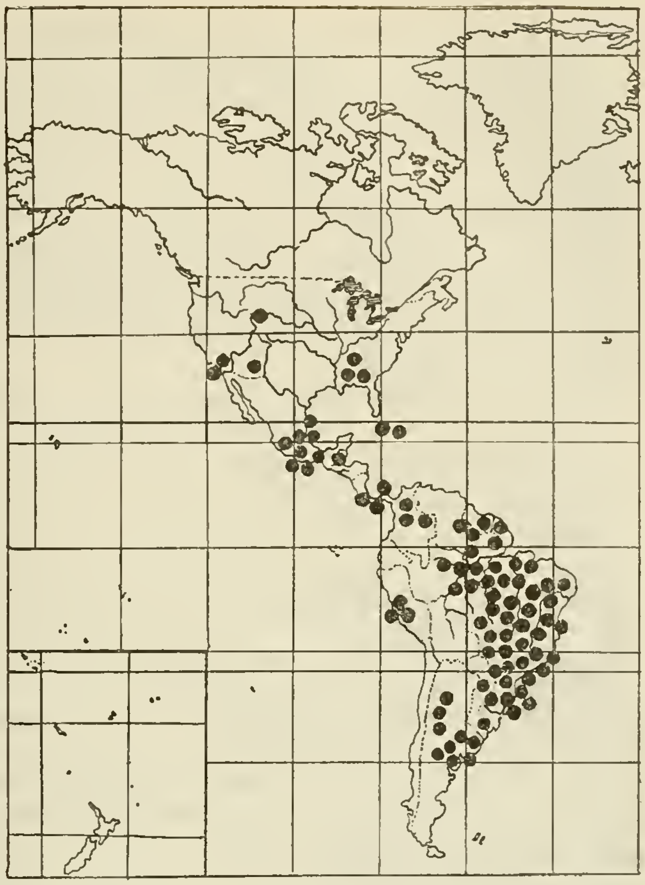
FIGURES 194, 729, 1369, 1378, 2206, 2231, 2429, 2431

Mallophora Macquart, Histoire naturelle des insectes diptères, vol. 1, p. 300, 1834. Type of genus: *Asilus bomboides* Wiedemann, 1821. Designated by Coquillett, 1910.

Mallophora has 1 subgenus, *Megaphorus* Bigot.

Robust insects of broad and stout form and with exceptionally dense, moderately long, bristly pile over certain areas. They have 3 submarginal cells; the third submarginal cell and the basal part of the second are quite narrow; the second submarginal cell is normally flared apically. Claws blunt. Length 15 to 30 mm.

Head, lateral aspect: The head is of medium length; the face is short above and quite prominent below, though the greater part of it is due to the recession of the eye and the facial gibbosity is generally confined to the lower half of the face and is seldom large or long. The occiput is prominent throughout, especially below. Pile of occiput dense and tufted below, abundant, more coarse above and usually without bristles on any part. The upper eye corners may sometimes have 2 or 3 weak bristles. The eye is strongly recessive posteroventrally; sometimes this recession begins only on the lower fourth; in other species it begins above the middle of the eye. In any case the eye appears rather high and short and sometimes is angular and pinched below; moreover, it tends to be greatly flattened anteromedially. The proboscis is very stout, extending beyond the face, usually directed downward and with a blunt apex. The palpus is of one segment but it is long and prominent, frequently curved and always with numerous, stout bristles; there may be a trace of the basal segment present. Antenna attached a little below the upper third of the head and only moderately elongate. The first two segments are rather short with bristly pile ventrally, dorsally and laterally on the first segment. The third segment may be long oval and only a little longer than the first two; or it may be distinctly longer than these basal segments and a little narrowed at the base and a little more narrowed at the apex. Microsegments are absent but there is a long bristle-tipped style present; the length of the style is from one to nearly three times the length of the third segment.


TEXT-FIGURE 33.—Pattern of distribution of the genus *Mallophora* Macquart.

Head, anterior aspect: The face below the antenna is from a fourth to a fifth the head width and rather strongly divergent below. It is usually bare in the middle and pubescent along the eye margin and upon the cheek. The cheeks are long, the subepistomal area is large and oblique and slightly convex. Upper face with a few, slender bristles or bristly hairs laterally near the eye margins; the upper part of the facial gibbosity has both slender bristles and sometimes long, stout elements as well. The lower half of the gibbosity has very numerous, stout bristles, often spikelike; sometimes there may be slender elements as well, any of which may be continued along the sides of the epistoma. The front is sunken and concave, pollinose or nearly bare, with a few, ocular bristles and a subocular tuft of bristly hairs on the lower lateral front. The front is slightly divergent, the vertex slightly narrowed, deeply excavated. Instead of bristles the broad, low ocellarium usually bears abundant, coarse pile or a few bristly hairs, especially behind the ocelli. Eye facets centrally enlarged, the facets often appearing flattened and rather waxy.

Thorax: The mesonotum is broad, long and rather low ocellarium usually bears abundant, coarse pile or undifferentiated, except that there may be 2 or 3 pairs of stout, postdorsocentral bristles. Humerus with similar, stiff pile. The lateral complement of stout bristles consists of 3 notopleural, 3 or 4 supraalar, 1 or 2 postsupraalar, and 2 or 3 postalar bristles. The convex, ventrally rimmed scutellum is without bristles but bears very numerous, long, bristly hairs on rim and disc. Metanotal callosity bullose, pollinose and without pile or bristles. Propleural pile situated in dense, long tufts. Upper mesopleural pile dense. The posterior basalare has a dense tuft of slender bristles or bristly pile, which is conspicuous; anterior basalare pollinose only. Posthypopleuron and metapleuron with a broad, vertical band of numerous bristles and long bristly hairs. Pteropleuron and sternopleuron pilose. Postmetacoxal area membranous. Prosternum dissociated.

Legs: The femora and tibiae are uniformly stout and robust; the hind tibia is especially likely to be thickened; the hind basitarsus enlarged and swollen. All basitarsi and tarsal segments are notably and characteristically shortened. The pile of the legs is characteristically dense, especially on the tibia but in a few species it tends to be a little shorter and more thinned on the first 4 tibiae and on the basal portion of the hind femur. All bristles are very stout and sharp, sometimes well obscured by pile in the more densely pilose species. On a typical species the hind femur may have 7 or 8 lateral bristles, 10 to 12 ventrolateral bristles, and 3 or 4 dorsal and dorsomedial bristles near the apex. The middle femur bears 2 to 4 prominent bristles anteriorly on the outer half, 1 or 2 correspondingly on the posterior half, and 2 bristles posterodorsally near the apex. Anterior femur with 1 bristle anteriorly on the outer fourth and 1 to 4 near the apex in a vertical row; sometimes there are 2 or 3 bristles posteriorly at the apex. Claws remarkably stout and blunt at apex; the pulvilli and empodium large.

Wings: The wings are broad at base, elongate, always longer than the abdomen and tending to be a little pointed at apex. The marginal cell is often with a very short stalk or is even closed at the margin. Three submarginal cells are present; of these the third and basal half of the second are quite narrow and the second submarginal cell is strongly flared. The anterior branch of the third vein ends well above the wing apex and the posterior branch ends far behind. Posterior crossvein sometimes extremely short. Fourth cell and anal cell closed and stalked. Ambient vein complete; alula large.

Abdomen: The abdomen is short and robust and nearly or quite as wide as the thorax. The pile is long, especially long and tufted on the sides of the first, the posterior half of the second, the whole of the third and fourth and sometimes also of the remaining segments. The pile tends to be long, dense, coarse and matted. Bristles are restricted to the sides of the first tergite. The pile on parts of these flies is often contrastingly colored. Sternites with long, dense pile. Females with eight well developed tergites. Males with the eighth tergite generally visible only laterally and usually short. Male terminalia comparatively small and never large; the superior forceps present and elongate. The gonopod is shorter, the hypandrium present but reduced in length; the aedeagus simple and the terminalia are not rotate. Female terminalia short; the eighth tergite and sternite are relatively short and both are a little compressed laterally; the ninth tergite is cleft on the apical half but short and small, wider than long; the dorsal proctiger is laterally compressed and apposed.

Mallophora constitutes a large and characteristic element of the Neotropical Asilid fauna with a few species found in the Nearctic region. They are restricted to the New World.

Distribution: Nearctic: *Mallophora acra* Curran (1931); *ardens* Macquart (1834); *bomboides* Wiedemann (1821); *bromleyi* Curran (1930); *chrysomela* Bromley (1925); *clausicella* Macquart (1849); *fautricoides* Curran (1930); *frustra* Pritchard (1935); *fulva* Banks (1911); *fulviventris* Macquart (1849); *guildiana* Williston (1885); *intermedia* Tucker (1907); *laphroides* Wiedemann (1828) [=*heteroptera* Macquart (1838), *minuta* Macquart (1834)]; *megachile* Coquillett (1893); *nigra* Williston (1885); *orcina* Wiedemann (1828); *perpusilla* Walker (1851); *prudens* Pritchard (1935); *pulchra* Pritchard (1935); *rex* Bromley (1925).

Neotropical: *Mallophora abana* Curran (1934); *ada* Curran (1941); *aeaca* Williston (1901); *affinis* Schiner (1868); *ajax* Curran (1941); *albicincta* Bromley (1929); *albifrons* Walker (1950); *alecto* Rondani (1848); *antica* Curran (1934); *antiqua* Walker (1855); *aria* Curran (1941); *argentipes* Macquart (1838); *atra* Macquart (1834); *auromystacea* Macquart (1855); *barbipes* Wiedemann (1819); *bassleri* Curran (1941); *belzebul* Schiner (1867); *bigotii* Lynch Arribálzaga (1882) [=*soccata* Lynch Arribálzaga (1880) not Thomson]; *breviventris* Macquart (1849); *bruneri* Bromley (1929); *calida* Fabricius (1787); *campestris* Curran (1941); *candens* Walker (1851); *ciliata* Walker (1851); *cilicrura* Rondani (1850); *cinerascens* Walker (1855); *clavipes* Curran (1941); *clavitarsis* Curran (1941); *coeruleiventris* Thomson (1869); *contraria* Walker (1851); *copelloi* Gemignani (1930); *cora* Curran (1941); *craverii* Bellardi (1861); *cruralis* Rondani (1863); *curiosa* Curran (1941); *dallasi* Gemignani

(1931); *dana* Curran (1941); *doellojuradoi* Gemignani (1930); *fairchildi* Curran (1942); *fautrix* Osten Sacken (1887); *fulvianalis* Macquart (1849); *fusca* Bromley (1934); *geijskesi* Curran (1942); *geniculata* Macquart (1838); *inca* Curran (1941); *infernalis* Wiedemann (1821) [=*freycineti* Macquart (1838)]; *jemima* Curran (1941); *lampon* Walker (1849); *leschenaultii* Macquart (1838); *leucothrica* Carrera and d'Andretta (1953); *lucida* Curran (1941); *lugubris* Lynch Arribálzaga (1880); *lynchi* Gemignani (1930); *macquartii* Rondani (1850) [=*scopifer* Macquart (1838), not Wiedemann, *scopipeda* Rondani (1863)]; *mexicana* Carrera and d'Andretta (1950); *minos* Wiedemann (1824); *neta* Curran (1941); *nigritarsis* Fabricius (1805) [=?*nigrifemorata* Macquart (1838)]; *nigriventris* Jaennicke (1867); *opposita* Walker (1851); *pica* Macquart (1849) [=*bergii* Lynch Arribálzaga (1880)]; *pipiens* Curran (1941); *pluto* Wiedemann (1828); *pulchella* Curran (1925); *purpurea* Walker (1850); *pusilla* Macquart (1838); *robusta* Wiedemann (1828); *ruficauda* Wiedemann (1828); *rufiventris* Macquart (1838); *schwarzi* Curran (1934); *scopifer* Wiedemann (1828); *scopitarsis* Rondani (1863); *scutellaris* Lynch Arribálzaga (1880); *semiviolacea* Rondani (1848); *sexualis* Curran (1937); *singularis* Macquart (1838); *soccata* Thomson (1869); *socculata* Rondani (1848); *speciosa* Curran (1934); *sylveirii* Macquart (1838); *testaceipes* Macquart (1849); *testaceitarsis* Macquart (1855); *tisiphones* Rondani (1848) [=*rufipes* Macquart (1849)] *tibialis* Macquart (1838) [=*fasciata* Walker (1851), *fascipennis* Macquart (1849)]; *tolteca* Curran (1941); *trichostica* Williston (1901); *vegeta* Lynch Arribálzaga (1882); *ventralis* Macquart (1838); *vorax* Curran (1941); *xylcopiides* Walker (1851); *zita* Curran (1941); *zottai* Gemignani (1930).

Country unknown: *Mallophora pyrura* Rondani (1864).

Mallophora orcina has been observed and commented on by Riley (1880) concerning the eggs and oviposition.

Subgenus *Megaphorus* Bigot

FIGURES 727, 1368, 1377

Megaphorus Bigot, Ann. Soc. Ent. France, ser. 3, vol. 5, p. 542, 1857. Type of subgenus: *Asilus laphroides* Wiedemann, 1828, as *Mallophora heteroptera* Macquart, 1838, by original designation.

Mallophorina Curran, Families and genera of North American Diptera, p. 181, 183, 1934. Type of subgenus: *Mallophora guildiana* Williston, 1885, by original designation.

Flies that are in nearly every respect similar to *Mallophora* Macquart. They are smaller and chiefly are to be recognized by the plane, not gibbous face which is slightly convex or almost flat and densely covered by long, delicate pile instead of bristles. The first posterior cell is closed or open. Ambient vein sometimes absent, at least generally evanescent. Posterior veins also sometimes evanescent. The claws are robust and blunt as in *Mallophora*. The dense pile of the thorax and abdomen is characteristic. Length 8 to 18 mm.

This is a Nearctic subgenus which so far contains the following species: *Megaphorus acra* Curran, *clausicella* Macquart, *frustra* Pritchard, *guildiana* Williston, *laphroides* Wiedemann (with two synonyms: *heteroptera* Macquart and *minuta* Macquart), *prudens* Pritchard, *pulchra* Pritchard. Possibly *Mallophora megachile* Coquillett belongs here; *minuta* may be distinct.

Bromley (1951) has pointed out that the species of *Megaphorus* Bigot, as *Mallophorina* Curran, while distinct in the United States, show all gradations in the South American fauna; consequently he recognizes it as a subgenus of *Mallophora*.

Nyssomyia, new genus

FIGURES 351, 748, 1405, 1414, 2260, 2330, 2463, 2464

Type of genus: *Nyssomyia ochracea*, new species.

Large flies, readily distinguished by the venation and the female terminalia. The first posterior cell is very long, narrow and undulate, caused by the sinuous character of the posterior branch of the third vein, and anterior branch of the fourth vein. The ovipositor is composed of the last 5 segments, which are greatly lengthened and narrowed. Length 37 mm.

Head, lateral aspect: The face is prominent on the lower two-thirds with a well developed gibbosity; on the upper third it is nearly plane with the eye, and this part bears no pile. The gibbosity has numerous, quite long, fine, bristly hairs, which continue along the lateral subepistoma. Occiput uniformly well developed throughout. It has 6 black, long bristles near the vertex; the pile is brownish yellow, long and abundant over the remainder of the occiput. The proboscis is stout, extends beyond the face and is obliquely truncate at the apex from below; the apex bears numerous, fine hairs, the base below is swollen with abundant, long, fine hairs; a dorsal ridge, prominent at the base, is present. Palpus is slender and cylindrical but not long; it bears numerous, fine, bristly hairs. The antenna is attached at the upper third of the head and is considerably shorter than the head, if the style is excepted. The first segment is twice as long as the second, the second is twice as long as wide. The third segment is very little longer than the second, and elongate oval; it bears a short microsegment and a slender style, not quite as long as the combined three segments. First segment below with several long, bristly hairs; both basal segments with numerous, fine setae above and other setae below.

Head, anterior aspect: The face has a well developed gibbosity occupying the lower two-thirds; the upper third of face barely extends beyond the eye and lacks pile. The face is thinly, brownish yellow pollinose and the gibbosity is densely covered with quite long, slender bristles extending down the sides of the subepistoma. The face below the antenna is a sixth the head width and distinctly widened below. Front short, with 10 or

12 bristles on each side. Vertex deeply excavated; the ocellarium is only moderately high and bears on each side 6 long, slender bristles.

Thorax: The mesonotum bears a narrowly separated, double irregular row of acrostical elements and has dorsocentral, bristly hairs which are equally fine and short and suberect laterally. Humerus with a dense tuft of long, fine, black pile. All lateral bristles are black and consist of 2 quite long, notopleural, a row of 5 supraalar bristles continuing back to the postalar region, 3 postalar, and an irregular row of 6 to 8 prescutellar bristles of varying thickness; there are 4 pairs of scutellar bristles. The scutellar margin is impressed, the disc quite convex, brownish yellow pollinose, densely fine, erect, long, black pilose. Metanotal slopes bullose and creased medially and with a dense tuft of rather long, erect, stiff, black pile. There are no bristles on the pleuron, except an irregular, vertical row of 6 weak, black bristles and more numerous anterior, long, yellow hairs, fanlike on the metapleuron and 9 weak, long, black bristles on hypopleuron. The upper sternopleuron, postmesopleuron and the pteropleuron each bear abundant, rather long, fine, erect, black pile. Pronotum with about 8 pairs of slender, black bristles. Lateral metasternum densely long pilose; postmetacoxal area membranous.

Legs: The anterior coxa has long, stiff, yellow pile and 2 slender, black bristles; the middle coxa with a tuft of 6 or 8 rather stout, black, anteroventral bristles; postcoxa with 1 weak, lateral and 1 weak, anterior, black bristle. The hind femur is moderately slender, the other femora rather stout, especially basally; all of the legs totally black and black pilose, except for a little pale pile behind on the anterior four femora. The mats of setae on the anterior tibia and tarsus are conspicuously rust brown. The hind femur bears 5 lateral and 6 ventral bristles on the lateral aspect, 4 ventral bristles on the basal third, and 4 also longer, ventromedial elements on the basal half, besides some equally long, fine, black, bristly hairs and a few, long, basal, reddish yellow hairs. Hind tibia with 3 dorsal bristles, 1 of which is quite at the base, 1 ventrolateral on the outer third or just beyond it; the pile is short, subappressed and black; apical black bristles strong ventrally and laterally. The middle femur has conspicuous, ventral black bristles in a double row consisting of 6 anterior and 9 posterior, emphasized basally; 1 lateral and 1 posterior bristle, both at apex. The tibia has strong bristles ventrally, a double row of 3 or 4 in each row which becomes much stronger at the apical fourth.

The anterior femur has 1 strong bristle in the middle posteriorly, 4 weak bristles anteriorly in a cluster at the apex, and numerous, slender, weak, black bristles ventrally consisting of 14 to 16 elements in a double, irregular row. Ventrally there is dense, rather short, fine, yellowish white pile, which is erect; it begins in the middle and continues in the middle laterally. The anterior tibia has 3 or 4 very long, stout, black bristles posteriorly and toward the base 4 very fine, long, black, posterior hairs; apex with 1 rather long, stout, black bristle dorsally, 2 anteriorly, 3 ventrally, and 1 or 2 posteriorly. The relatively short basitarsus has 3 anterior bristles on the base directed downward instead of outward and 2 anteriorly at apex, others ventrally. Claws not very sharp at apex, curved from the base; pulvilli thin, subtruncate, nearly as long as claw; empodium short, half as long as claw and strongly thickened at the base.

Wings: The wings are comparatively slender. The marginal cell is wide and rippled but the wings are not expanded anteriorly. Apex of the marginal cell attenuate, the stalk is not long. The 2 branches of the third vein end rather near; the posterior branch ends at or immediately below the apex. The posterior branch and the anterior branch of the fourth vein are both strongly sinuous, causing the long, slender, first posterior cell to be wavy and sinuous. Fourth posterior cell small, closed with a long stalk, all its sides convex. The second basal cell ends in two veins. Alula large, ambient vein complete.

Abdomen: The abdomen is cylindrical and not quite as wide as the mesonotum, except on the short, first tergite, which is only about a fourth as long as second tergite, but is rather protuberant laterally, very strongly creased anteriorly, abrupt and shelving behind with dense, wide band of very fine, brownish yellow pile and bears 7 or 8 weak, long, brownish yellow bristles. Sides of second and third tergites with moderately long, dense, erect, fine, brownish brassy pile, much shorter on the remainder. There are no bristles or special pile beyond the first tergite. Females with five normal tergites; the fifth to the third tergites of nearly equal length. The sixth and seventh tergites are also long but are strongly compressed laterally and attenuate, strongly ridged, creased or striate vertically; the eighth segment is drawn out into a long, slender process similar to *Astochia* Becker. Males with eight tergites. The superior forceps of the male rather prominent, obtusely truncate at the apex and thrust strongly and obliquely upward, the proctiger thrust backward. A wide, angular gap is left between the superior forceps and the short, triangular gonopod. Hypandrium present and moderately long.

Distribution: Palaearctic: *Nyssomyia ochracea*, new species.

Nyssomyia ochracea, new species

Length 37 mm. Male, female. Head: The face is black, covered with thin, brownish yellow pollen but with a more conspicuous, sublateral, attenuate spot of reddish brown pollen on each side beneath the antennae. Upper and lateral mystax of face black, and extends to the bottom of the head and encloses a central triangle of abundant, yellowish white mystax, which extends down to the anterior, ventral edge of the facial gibbosity. Pile of front weak, long and black. Occiput brownish yellow pilose below, black pilose above and with long, dorsal, black bristles near the vertex. Hairs of ocellarium black.

Thorax: The thorax is brownish yellow pollinose, especially pronounced on the scutellum. Bristles of the lateral margins and pile of humerus, scutellar disc, and metanotal slopes black. Metapleuron with an irregular, vertical row of 6 black bristles and anteriorly with numerous, long, yellow hairs; 9 long, weak, black bristles on hypopleuron; pronotum with 8 pairs of slender, black bristles.

Legs: The legs are black and black pilose, except for a little pale pile posteriorly on the first 4 femora, and all bristles black. Mats of setae on anterior tibia and tarsi conspicuously rust brown.

Wings: The marginal and submarginal cells are rather strongly rippled. The two branches of the third vein end rather close together; the posterior branch ends immediately below the apex.

Abdomen: The first tergite has a prominent, dense, wide band of very fine, brownish yellow pile and has 7 or 8 weak but long, brownish yellow bristles.

Type. Male; allotype female, Tonkin, Than-Moi, June-July, H. Fruhstorfer collector. Both types are in the Zoologische Staatssammlung, Munich.

Genus *Porasilus* Curran

FIGURES 314, 709, 1386, 1397, 2477, 2487

Porasilus Curran, Amer. Mus. Novitates, no. 752, p. 15, 1934. Type of genus: *Porasilus barbiellinii* Curran, 1934, by original designation.

Flies of medium size or larger. Related to and resembling *Nerax*, new genus in general appearance; like those flies the abdomen is stout basally and the male terminalia large and clublike. Facial gibbosity very prominent with an abrupt ledge above and occupying at least three-fourths the height of the face and well covered with long, slender bristles; lower facial elements more stout and sides of the long, narrow subepistoma covered with a broad band of bristly pile. The posterior branch of the third vein ends below the wing apex and the base of the second submarginal cell has a spur vein. Ninth male sternite with a curious, not chitinized, ventral lobe or projection, which is small but distinct. The female terminalia is long and laterally compressed. Its principal distinction from *Nerax* lies in the presence of a patch of scattered pile on the lateral metanotal slopes. Length 18 to 20 mm.

Head, lateral aspect: The head is comparatively long with the face strongly produced and gibbose and with an abrupt ledge above. The upper third of the face is short and extends only a little beyond the eyes. The proboscis is only moderately stout; it extends a little beyond the face and is directed chiefly downward; it is blunt with numerous, bristly hairs at the apex which extend outward and it has a subapical crease. Palpus robust, elongate, large and bearing numerous stout bristles and bristly hairs, which are black or pale. The antenna is attached near the upper third of the head with the first segment rather slender, nearly twice as long as the second. The third segment is as long or not quite as long as the first segment and is a little narrowed apically. It bears a stout style as long as all three segments combined and has a bristle at the apex. First segment with slender bristles above and longer bristles and bristly hairs below. Second segment with 2 or 3 more conspicuous, dorsoapical bristles and 2 or 3 setae below. Cheeks rather prominent, well developed below the eye. The occiput is prominent dorsally but sublaterally, although the lower fourth of the eye is strongly recessive anteriorly, the occiput is poorly developed below. Ventral pile of occiput is long and fine behind, coarse anteriorly. Weak bristles begin at the middle of the head and behind each upper eye corner there are 4 stout bristles.

Head, anterior aspect: The face is rather densely pollinose without pile on the short portion beneath the antenna. The gibbosity bears dense, numerous, slender bristles and bristly hairs down the middle; some upper elements are black, the lower bristles and hairs pale. In the middle on the lower part of the gibbosity are about 5 quite stout bristles on each side. Stiff hairs extend laterally almost to the eye margin and also down the sides of the subepistoma. The head is widest below, the face below the antenna is about a fourth the head width and strongly widened ventrally. The front is very slightly widened, the vertex slightly narrowed. Sides of front with an oval patch of many, long, slender bristles and bristly hairs. The ocellarium is not large, is low, the anterior ocellus quite small and it bears between the ocelli 3 pairs of slender bristles and 2 pairs behind. The vertex is deeply excavated.

Thorax: The thorax is short and high, the mesonotum is high and rather strongly convex anteriorly and posteriorly. It has a wide band of bristly acrostical pile. Dorsocentral elements are merged with lateral hairs anteriorly, are differentiated in the middle of the mesonotum, and form long, slender elements posteriorly. Lateral bristles are stout. There are 2 notopleural and 2 supraalar bristles, and 2 bristles on the postalar callosity. On the scutellar margin are 2 pairs of bristles, besides other long, slender, bristly, marginal hairs. Scutellum convex, thick, without impressed rim; it is pollinose and in the male the disc bears numerous, long, quite fine hairs; females may have some erect setae as well as some long, bristly hairs. Lateral metanotal callosity with bristly pile. The pronotum is long, extending back into the mesonotum in the middle. It bears weak bristles. Posterior margin of mesopleuron, its upper and anterior border, and the upper posterior sternopleuron with coarse and bristly hairs. Anterior and posterior basalare without pile. Posterior pteropleuron with pile. The metapleuron bears a wide vertical band of moderately stout, long bristles continued below on the hypopleuron. Lateral metasternum with pile, the ventral metasternum with dense, long pile. There appears to be an extension of the lateral chitin immediately behind the posterior coxa. However, it is narrowly separated in the middle and not fused. Prosternum dissociated.

Legs: All the femora are stout and a little swollen, especially the first 4 with the anterior femur rather conspicuously enlarged towards the basal half. The pile is long and coarse or bristly, appressed only along the dorsal or anterior surface. The bristles are quite stout. On the hind femur are 3 lateral bristles along the middle, 1 dorsolateral at the subapex, 1 dorsomedial at the apex, and 4 ventrolateral bristles. The hind tibia bears at the base 1 dorsolateral bristle, another at the middle, 1 lateral at the outer third, 1 ventral at the outer fifth. Hind basitarsus rather short and stout, as long as the next three segments. Middle femur with 2 stout bristles anteriorly on the outer half, 3 anteroventral bristles, 1 at the middle, and 2 beyond and at the apex 2 posterodorsal bristles. The middle tibia has only bristly hairs anteriorly, 2 weak posterodorsal bristles beyond the middle, 4 longer, weak, posteroventral bristles, and 3 ventral bristles on the outer half, the last element being quite stout. Anterior femur with extremely abundant, long pile ventrally, long bristly hairs posteriorly and dorsally, but no bristles. This tibia has 4 small bristles anterodorsally on the basal fourth, 5 slightly longer posterodorsal bristles and posteroventrally and below with a fringe of many long, bristly hairs. Claws stout, sharp; pulvillus quite large; empodium bladelike.

Wings: The wings are tinged with brown, the marginal cell is narrowed apically, closed and with a long stalk. The anterior branch of the third vein ends well above the wing apex, the posterior branch very shortly behind. The anterior branch bears near the base a distinct spur vein. Posterior crossvein absent. Alula large; ambient vein complete. The third vein forks at or immediately beyond the end of the distal cell.

Abdomen: The abdomen has fine, scattered, subappressed hairs in the middles of the fourth and succeeding tergites. Sides of the first 3 tergites with numerous, long and bristly hairs but no tufts of parted pile. Sides of first segment with 3 or 4 stout bristles and other weaker elements. All sternites with long, fine, erect pile, dense only on the first three sternites. Males with eight tergites, the eighth shortened in the middle, longer laterally. Females with seven segments not incorporated in the ovipositor. Sixth and seventh segments in the males with silver pollen. Male terminalia like *Nerax* with an immense, clublike structure which consists of the very large, apposed, superior forceps, densely bristly; the proctiger is short and exposed; the hypandrium has a posteromedial process. The gonopod is prominent and wide at the base with a long, narrow, distal process; its whole ventral surface has a dense fringe of bristly pile. Female terminalia quite wide at the base and then abruptly narrowed and very strongly compressed; female terminalia with a long, narrow, distal process; the whole ventral surface with a dense fringe of bristly pile. The eighth segment is not quite as long as the two preceding segments. Ninth and tenth segments shorter and equally compressed.

Distribution: Neotropical: *Porasilus barbiellinii* Curran (1934).

Genus *Anacinaces* Enderlein

FIGURES 319, 708, 1434, 1443, 2199, 2236, 2485, 2490

Anacinaces Enderlein, Zool. Anzeiger, vol. 44, p. 257, 1914. Type of genus: *Anacinaces gigas* Enderlein, 1914, by original designation.

Very large flies. The face is nearly straight in profile and therefore conspicuous ventrally only to the extent that the eye recedes. On the wings the second submarginal cell is quite narrow, except at the apex where it is strongly flared and widened; the anterior branch of the third vein ends a short distance above the wing apex, the posterior branch ends far behind the wing apex; moreover near the base of the anterior branch of the third vein there is a long spur vein. The basal portion simulates a straight, oblique crossvein. Length about 33 mm.

Head, lateral aspect: The face is very short and but little produced, straight or plane in profile and rather long; it is conspicuous below because the eye is rather strongly recessive. The cheeks are developed for a short distance beneath the eye; the eye is convex anteriorly, straight for the greater part of the posterior height, but quite recessive anteroventrally, on the lower sixth and dorsally it rises rather strongly above the occiput. The pile of the occiput is abundant, long and fine, and continues up to the middle of the head where it is largely replaced by bristles. In the middle there are 8 pairs of slender bristles turned downward, followed by 8 pairs of dorsal, stout, rather short and slightly curved bristles. The proboscis is stout, moderately long and subcylindrical and slightly swollen toward the base on the dorsal aspect; the apex is bluntly rounded, and bears stiff pile and there are quite numerous, long, fine hairs ventrally on the basal third; a low, long, medial ridge is present; also near the middle on either side there is a pair of long, oblique, slender, bristly hairs. The proboscis is directed chiefly downward. Palpus long, cylindrical with bristly pile dorsally and ventrally and 6 or 7 quite stiff, long bristles apically; there appears to be a remnant or trace of the basal segment present. Antenna attached to the upper third of the head; the first two segments are rather short, the first robust, twice as long as the second, bearing 7 or 8 short setae ventrally and a few dorsally.

Head, anterior aspect: The face below the antenna is less than a fifth the head width and divergent at the epistoma. The subepistomal area is long, oblique, deeply concave and pubescent. Face very minutely appressed pubescent; the upper half has considerable, fine, moderately long pile, bristly in character, the lower half bears a triangular patch of moderately long, but exceptionally stout, black bristles; there is a single bristle dorsally at the head of this triangle, with 4 bristles transversely below, followed by a row of 3 pairs of bristles; also there are 2 additional pairs on the lowest part of the face and 1 on each side of the lateral, subepistomal margin. Front pollinose, with a row of 10 to 12 quite short, bristly hairs along the eye margin. Vertex rather deeply excavated but unusually narrow and with vertical sides; the comparatively low and small ocellarium is set anteriorly with vertical sides and bears 2 or 3 pairs of short, bristly hairs which are curled anteriorly forward. Anterior eye facets but little enlarged.

Thorax: The thorax is pollinose; the pile of the mesonotum is extremely short, scanty and bristly. There in a single row of acrostical setae equally short, and minute; dorsocentral setae are present in 1 or 2 rows, and also short but there are 4 or 5 long, slender, bristly hairs posteriorly in each row. In the type of genus the lateral bristles consist of 2 weak humeral, 3 stout but rather short notopleural, 2 supraalar, 2 suprapostalar, 3 or 4 postalar bristles and 6 pairs of slender, rather short, scutellar bristles. The scutellum is moderately thick and convex and pollinose, with impressed rim. Propleuron with abundant, fine, long pile; bristles are limited to the pronotum where there are only 5 pairs. The upper border of the mesopleuron has numerous, stiff, bristly hairs but no bristles. Anterior and upper middle sternopleuron and a vertical band on the pteropleuron with some bristly hairs, at least 8 or 10 in each area. Posthypopleuron with a vertical row of 4 slender bristles and other equally long, bristly hairs. Metapleuron with a single row of 5 stout, rather long bristles and dorsally with numerous, slender, bristly hairs. Lateral slopes of the metanotum strongly bullose, creased ventromedially and densely pollinose; only the posterior lateral metasternum and the ventral metasternum bear long pile. Postmetacoxal area membranous; tegula with setae; posterior basalare with 4 rather stiff, moderately long bristles.

Legs: The femora are only moderately stout; this is especially true of the posterior pair. The anterior 4 are slightly thickened towards the base but only dorsally. Pile of the hind femur dense, short, appressed and setate. Bristles are numerous, quite stout, all black, and of only moderate length. The following complement of bristles is present on the hind femora in the type of genus: 4 lateral, 1 subapical dorsolateral and 1 dorsomedial, 5 ventrolateral, an apical vertical row of 5 medial bristles, and 4 ventromedial bristles. This tibia has 2 dorsomedial bristles confined to the basal half, 2 dorsolateral which are also basal, and 2 ventrolateral bristles on the outer half. The tibial pile is dense, short, appressed with a brush of orange brown setae on the entire medial surface; the apex bears 1 ventromedial, 1 dorsomedial, 4 ventral, 1 lateral and 1 dorsolateral bristle. Middle femur with 5 anterior bristles, the more distal ones doubled; 5 ventrolateral; 9 ventral; and 3 posterior bristles. This tibia has 2 anterodorsal bristles, 2 posterodorsal, 2 posterior and 3 posteroventral bristles besides 2 stout, ventral bristles. Anterior femur with 5 exceptionally stout, ventral bristles on the basal half; anterior tibia with a single, basal, anterodorsal bristle and 3 or 4 posterodorsal elements besides 3 quite slender, but long posteroventral bristles. Anterior basitarsus quite short; twice as long as wide and not as long as the two succeeding segments together. Posterior basitarsus nearly as long as the succeeding three segments. Tarsi end in stout, bluntly pointed claws, curved from the base, long wide pulvilli, and long, bladelike empodium.

Wings: The wings are wider on the basal third. Marginal cell closed almost at the margin, the stalk extremely short; subcostal cell narrow; the anterior branch of the third vein ends distinctly above the wing apex, the posterior branch ends far to the rear of the apex. The second submarginal cell is quite narrow on the basal two-thirds, strongly flared distally, and takes origin opposite the end of the discal cell; it has a long, basal spur near its origin which leaves the base of the anterior branch of third vein simulating a straight, oblique crossvein. The anterior crossvein enters the discal cell before the middle; the fourth posterior cell closed with a moderately long stalk, its anterior and distal surface convex, its posterior surface plane. The lower end vein of the discal cell is a little longer than the upper vein and rectangular to it. Second basal cell ends in three veins, the middle vein nearly eliminated. Anal cell closed with a rather long stalk; alula large, ambient vein complete.

Abdomen: The abdomen is robust and almost as wide as the mesonotum. The sides of the first tergite are strongly protuberant. Pile of the abdomen short and largely appressed across the middle of the tergites, becoming longer, coarse and subappressed laterally, with a tendency for the pile on the middle of the sides to be directed outward in the form of matted brushes. Bristles absent, except on the first tergite, where there are 8 pairs. First sternite with a few, minute setae laterally; remaining sternites with long, erect, bristly pile. Male with eight tergites, but the eighth quite short. Male terminalia quite large, dominated by the long, obtuse superior forceps, which bear a small dorsoapical notch. Proctiger small but directed obliquely upward. The gonopod is large and prominent laterally, but only half as long as the superior forceps. Hypandrium large and obtuse. No females seen.

Distribution: Oriental: *Anacinaces gigas* Enderlein (1914); *rufiventris* Macquart (1838).

Most if not all those Oriental species placed by early dipterists in the genus *Erax* Scopoli belong here also.

Genus *Eicherax* Bigot

FIGURES 322, 375, 697, 742, 743, 1419, 1428, 1627, 1628, 2252, 2384, 2401

Eicherax Bigot, Ann. Soc. Ent. France, ser. 3, vol. 5, p. 545, 1857. Type of genus: *Erax simplex* Macquart, 1848, by original designation.

Eristicus Loew, Linnaea Entomologica, vol. 3, p. 396, 1848. Preoccupied by Hymenoptera, 1845. Type of genus: *Eristicus nigripes* Bellardi, 1861, by present designation.

Neoeristicus Osten Sacken, Catalogue of the described Diptera of North America, ed. 2, Smithsonian Misc. Coll., vol. 16, pp. 81, 235, 1878. Change of name.

Small to medium size flies. The face has a small gibbosity with a moderate number of stout bristles. The postmesonotal dorsocentral bristles are strong. The antennal style is long, the thoracic and abdominal pile short. The tergal bristles are little more than long, stiff setae, except those of the first tergite. The female ovipositor is robust, short and cylindrical. These flies are especially characterized by having a short spur extending back from the base of the anterior branch of the third vein. Length 15 to 20 mm.

Head, lateral aspect: The face is moderately prominent below, the greater part of this is due to the recession of the eye. It is very shortly and slightly produced on the upper half and slightly concave. The eye is moderately recessive anteriorly below. The occiput is moderately thick, least thick in the middle and well developed at the vertex; it gradually slopes down to the eye margin. The pile of the occiput is restricted to a few fine hairs dorsally and in the middle; the ventral third of the occiput bears numerous, long, delicate, curved, bushy hairs. Bristles begin at the middle, are moderately stout and near the vertex become especially stout, short and slightly curved; there are 5 strong, middle bristles; the intervening bristles are somewhat weaker and there are 7 or 8 stout bristles above. The proboscis is small, of moderate girth, cylindrical, with dorsal ridge, obtuse apex, and some long, stiff hairs ventrally below. Palpus of 1 segment bearing apically numerous, strong, downward curved bristles and bristly hairs. The antenna is attached at the upper third of the head and of moderate length; the first segment is not quite twice as long as the second, the second slightly widened apically. The third segment is oval, gently tapered from the middle towards the apex, and nearly as long as the first two segments combined. A minute microsegment is present and the style is moderately long with short, apical bristle, attenuate along the middle, and nearly 1½ times as long as the third segment. The third segment is laterally compressed. The first segment bears 8 or 10 setae above and longer setae below; second segment with 5 or 6 setae dorsally and a like number below; third segment with 1 or 2 minute setae.

Head, anterior aspect: The face below the antenna is a fourth of head width and slightly divergent below; subepistoma of moderate size, oblique, plane and pubescent. The face is pubescent, with some short, fine, scattered pile across the middle, 12 moderately strong, long, black bristles in the middle of the face on the lower half, and with an additional 3 pairs of longer, stouter bristles on the anterior epistomal margin and 3 stout pairs along the lateral margin. The front is slightly divergent; the vertex is equally convergent, its sides have 4 or 5 distinct, slender bristles. Vertex moderately excavated with slanting sides, small ocellarium and 3 pairs of weak bristles. Eyes enlarged centrally.

Thorax: The thorax everywhere pollinose; the pile of the mesonotum is scanty, fine, nearly erect and setate; a double acrostical row of setae is present anteriorly; dorsolateral elements are weakly differentiated and at the wing level become long and strong with 4 in each row. Humerus pilose. Lateral bristles are long and stout and consist of 2 notopleural, 1 supraalar, 2 postalar, and 2 pairs of scutellar bristles. Scutellum thick and convex but without impressed rim. Propleuron with dense, long pile, the pronotum has 4 pairs of stout bristles. Upper mesopleuron with a few fine hairs and posteriorly with several, long, fine, bristly hairs; similar hairs present on the upper sternopleuron and shorter, fine hairs present on the pteropleuron. Posthypopleuron with 6 slender, quite weak bristles; metapleuron with a single row of 6 stout, ventral bristles and 4 or 5 slender, dorsal bristles. Metanotal slopes pubescent only. Anterior basalare with several, long, bristly hairs; squama with a multiple fringe. Postmetacoxal area membranous; prosternum dissociated.

Legs: The hind femur is stout, its tibia comparatively slender; anterior and middle femora slightly elongate and slightly swollen towards the base. All bear dense, appressed, setate pile on all surfaces, and the bristles are stout and moderately long; the hind femur bears 1 stout, dorsomedial, 1 apical, and 1 subapical bristle; 3 dorsolateral, 2 of which are in the middle and 1 is subapical; also 5 oblique, ventrolateral, and 2 ventromedial bristles at the base. Hind tibia with 4 weak, dorsomedial, 3 strong, dorsolateral, and 2 ventrolateral elements beyond the middle. Basitarsus stout, as long as the following three segments. Middle femur with 2 posteroapical, 2 anterodorsal, 2 anteroventral and 3 posteroventral bristles on the basal half. Middle tibia with 2 minute, or weak dorsal bristles on each side on the outer half, 2 long, strong, anteroventral, 1 equally strong ventral at the outer third, and 3 or 4 posteroventral bristles. Anterior femur with only quite weak, small, apical bristles and about 9 or 10 long, fine, bristly hairs below; its tibia has 5 or 6 weak dorsal elements but with a conspicuous, posteroventral row of 3 long, stout, oblique bristles and a fourth shorter bristle at the apex; apical circlet of 8 bristles. The posterior bristles of the tarsal segments are quite long and stout; tarsi end in wide, spatulate, long, apically rounded pulvilli, long, stout empodium, long, slender, sharp, apically bent claws.

Wings: Marginal cell closed with a long stalk and this cell curved slightly backward apically; the anterior branch of the third vein ends far above the wing apex, the posterior branch ends behind the wing apex. First posterior cell narrowed in the middle but the second cell is only slightly swollen at the base; lower end vein of the discal cell pulled backward. Fourth posterior cell closed and stalked, convex apically and distally. Anal cell closed and stalked. Second basal cell ends in two veins; alula large; ambient vein complete.

Abdomen: The abdomen is subcylindrical and strongly tapered; the second tergite is as wide as the mesonotum and rather flattened; abdomen as long as the wings. The first tergite is strongly swollen and convex laterally. Pile scanty, flat appressed setae with 4 or 5 stout, long bristles present on the sides of the first tergite. Posterolateral corners of fifth to seventh tergites with 2 or 3 strong, bristly hairs, no distinct bristles. Sternites with appressed setae and no bristles. Eight tergites present in males, the eighth concealed dorsally and quite short laterally. Seven tergites present in the female, the eighth incorporated in ovipositor. Male terminalia rather large and robust but short, the superior forceps are convex laterally, extend in at apex to meet medially with only a very small dorsal notch. Proctiger exceptionally large and directed obliquely upward. Gonopod prominent laterally and together with claspers set at an angle downward and then sharply bent upward so that a space shows between. Hypandrium well developed. Female terminalia are short, especially the terminal segments. In the female the eighth is as long as high and slightly compressed laterally and in consequence not quite cylindrical. The ninth and tenth segments are exceptionally short and rather strongly compressed laterally; tenth sternal element narrow, high, very short and cleft, the two halves tightly apposed.

Distribution: Neotropical: *Eicherax eupator* Walker (1851); *flavescens* James (1953); *macularis* Wiedemann (1821); *nigripes* Bellardi (1861); *nigrimystaceus* Macquart (1847); *simplex* Macquart (1848); *ricnotes* Engel (1930); *villosus* Bellardi (1861).

Genus *Efferia* Coquillett

FIGURE 800

Efferia Coquillett, Canadian Ent., vol. 25, p. 175, 1893. Type of genus: *Efferia candidus* Coquillett, 1893. Designated by Coquillett, 1910, the fifth of 5 species.

Large flies, similar to *Nerax*, new genus and readily distinguished by the presence of 3 submarginal cells. The spur beyond the crossvein at the base of the anterior branch of the third vein is extended completely back to the second vein without intergrades; this spur constitutes the base of the posterior branch of the second vein, which has become fused with the anterior branch of the third vein. Marginal cell is extremely narrow both at base and at apex and the posterior branch of the third vein ends well above the wing apex. The costa is never dilate. These are pale grey or yellowish white colored flies; the thorax bears brownish yellow pollen and the abdomen has much silvery grey pollen, so that they tend to match the color of the sandy, arid regions of which they are inhabitants. Length 15 to 30 mm.

Head, lateral aspect: The head is of medium length, with the gibbosity only moderately developed but more conspicuous because of the gradual, strong, posterior recession of the eye which leaves the eye short and thin below. The cheeks are quite prominent and high. The proboscis is quite stout with a blunt apex. Subepistomal area deeply concave, without medial ridge and in contrast to *Nerax* its whole surface is coarsely pubescent. The upper occiput bears 7 erect, stout bristles. The face is pubescent, with numerous, coarse, bristly hairs and with stout bristles confined to the epistomal margin where there is a transverse row of 6 pairs. Antenna as in *Nerax*, the front and vertex likewise. The small, low ocellarium has 1 pair of stout, long bristles and several, additional, fine, shorter hairs.

Thorax: The thorax is similar to *Nerax*; the metanotal callosity also bare and the anterior basalare with slender bristles. Postmetacoxal area membranous and pilose. Prosternum dissociated.

Legs: The legs are similar to *Nerax* but with the femora generally more swollen; all the femora and tibiae bear long, rather dense, delicate fringes of erect pile on their ventral surfaces, more copious on the tibiae. Bristles, where present, are exceptionally stout, long and blunt. Hind femur with 3 lateral, 4 ventral on the basal half, and 2 ventrolateral distal bristles; there is a pair of bristles dorsally at the subapex but at the apex there is only a medial bristle. Middle femur with 2 anterior bristles, 1 distal anteroventral, and 6 conspicuous, posterior bristles. Bristles are absent on the anterior femur. Hind tibia with 2 anterodorsal, 3 posterdorsal, 1 anterior at the outer third, and 1 anteroventral beyond. The apex bears 5 bristles. Middle tibia with 3 posterodorsal, distal bristles and 1 long ventral bristle on the outer fourth; the anterior tibia has 4 dorsal, 2 basal anterior dorsal, and a single, long, distal posterior bristle. Basitarsus throughout short and slightly longer than the next 2 segments. Anterior and posterior bristles of the first 4 tarsal segments exaggerated. Claws long, stout, a little blunt; the pulvilli and empodium well developed.

Wings: The wings are much like *Nerax* except for the presence of 3 complete submarginal cells. The wing is exceptionally slender, the first branch of the medius ends far behind the wing apex.

Abdomen: The abdomen is elongate, basally stout and strongly tapered, especially in females. The surface is pale pollinose, the pile abundant, subappressed and setate with long, laterally directed tufts on the second and third tergites and radiating tufts on the strongly protuberant margins of the first tergite. Sides of the first tergite with 3 or 4 quite stout bristles, usually pale. The lateral tufts of pile in the male are medially divided and of a fine and crinkled texture. Males with eight tergites. The superior forceps unusually long and strongly compressed, particularly on the basal portion. Female with the eighth segment long and flattened, laterally compressed and striate; the ninth segment is shorter and together with the proctiger likewise greatly compressed.

Distribution: Nearctic: *Efferia anomalus* Bellardi (1861); *candidus* Coquillett (1893); *pernicis* Coquillett (1893).

Neotropical: *Efferia latiforceps* Bromley (1928); *neowillistoni* Bromley (1933).

Nerax, new genus

Figures 388, 740, 1381, 1390

Erax of American authors generally; not *Erax* Scopoli, 1763.

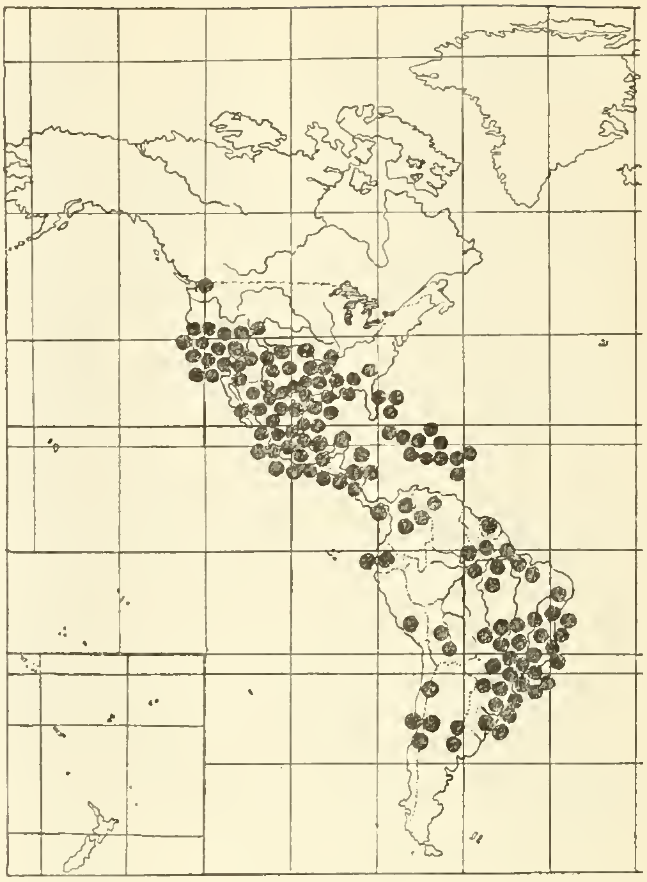
Type of genus: *Asilus aestuans* Linné, 1767, by present designation.

The species of *Nerax* are medium size to generally large flies, composed of numerous species and species groups confined to the New World. They are readily characterized by the prominent, bristle-covered gibbosity of the face, the numerous, stout bristles, the tapered abdomen in which the male terminalia forms a characteristic, enlarged, elongate, laterally compressed and clublike structure. The fully inflated scutellum should be noted. The posterior branch of the third vein ends before, at or slightly beyond the apex of the wing and near the base of the anterior branch of the third vein there is often a spur vein with the base itself formed like a crossvein, or this spur may be quite absent and the base arising gradually. Length 12 to 35 mm.

The decision as to a proper and satisfactory name for the very large, New World group of flies, which have previously gone under the name of *Erax* Scopoli, through an error of interpretation by Macquart, is much involved. Hine, 1919, noted this situation without rectifying it and without comment on the prior claim of European species to the name *Erax*. Hine designated an American species as type of genus for *Erax* Scopoli, overlooking the fact that Coquillett, 1910, had previously designated one of Scopoli's included species as the type of genus of *Erax* Scopoli. I am indebted to Mr. H. Oldroyd for calling to my attention the confusion which has long existed with respect to the European robber flies which have been currently placed under the name *Protophanes* Loew.

For type of genus I choose *Asilus aestuans* Linné because it is a typical and ubiquitous species within the genus, of wide range and can not be confused with *Efferia* Coquillett or other related genera.

Eristicus Loew, 1848, is one of the names mentioned for possible use for the New World flies formerly going under the name *Erax* Scopoli. Loew included no species by name under his genus *Eristicus* and on account of preoccupation the name was changed by Osten Sacken (1878) to *Neoeristicus*. Because *Eristicus* was offered as a new name for a new group, and not as a substitute name, or change of name, it is proper in this case to affix to it the first suggested species which properly fits the description. The first person to properly associate a species with the name *Eristicus* was Bellardi (1861) who, in his well known compendium on Mexican and Central American Diptera, discussed the group of flies at some length and described 14 species under the name *Erax* Scopoli, and for each of these 14 he placed after them in parentheses the term *Erax* Loew. He followed these by 2 more species under *Erax*, namely *Erax nigripes* Bellardi and *Erax villosus* Bellardi. Bellardi clearly indicated that these 2 species were unlike the first 14 species that he described, by placing after them in parentheses '*Eristicus Loew*'. This prior use invalidates Coquillett's (1910) designation of *Erax ambiguus* Macquart as type of genus of *Eristicus* on hearsay evidence. This represents the first association of a species with the genus *Eristicus* Loew, and one of these 2 species is available for type of genus. I now designate *Eristicus nigripes* Bellardi the type of genus of *Eristicus* Loew, which genus name was changed by Osten Sacken to *Neoeristicus*.



Text-Figure 34.—Pattern of distribution of the genus *Nerax* Hull

But these 2 species, *Eristicus nigripes* and *villosus* belong in the same group of species as have, up until this time, been placed in Bigot's genus *Eicherax* Bigot, 1857. Since *Eicherax* was completed by a named and included species, *Eicherax simplex* Macquart, before *Eristicus* was completed by a named, associated species by Bellardi, 1861, I conclude that it is proper to place *Neoeristicus* in the synonymy of *Eicherax*.

It is apparent that *Eristicus* Loew, 1848, changed by Osten Sacken, 1878, to *Neoeristicus* on account of preoccupation of *Eristicus*, is not then available for the New World species formerly going under the name *Erax*. In 1910 Coquillett designated *Erax barbatus* as the type of genus of *Erax*. This was the fifth species and is a European species. These Palaearctic flies only superficially resemble the widespread New World genus, which must now be assigned another name. The species *Protophanes punctatus*, an Old World species and the type of genus of *Protophanes* Loew, has generally been considered a synonym of *Erax barbatus;* the latter, *Erax* Scopoli, does have priority over *Protophanes* Loew. In any case the name *Erax* Scopoli cannot be used for the New World group of flies now without a name, and it seems entirely proper to begin using Scopoli's name for the Palaearctic species, which have previously gone under the name *Protophanes;* I have, therefore, placed *Protophanes* in synonymy. I call attention to the scattered distribution of some species placed by Kertész in this group (*Protophanes* Loew); I consider it highly doubtful that all of these species are congeneric with the European *Erax barbatus* Scopoli (*Protophanes punctatus* Meigen of authors).

Head, lateral aspect: The head is of medium length made longer by the very prominent gibbosity of the face, which is abrupt above, leaving the upper fourth of the face short, but slightly elevated at the antennal base. The gibbosity of the face is prominent and rounded. Occiput prominent, especially dorsally and again on the lowest portion where the eye is angularly recessive. The pile of the occiput is dense, long and fine below and becomes more scanty above. Bristles begin at the middle of the head, are submarginal, long and slender, except at the vertex and on the middle of the head tend to point or curve downward. The upper bristles are stout, spikelike and slightly curved and often situated in a double row. The entire group of upper bristles on each side contain as many as 10 or as few as 4. The proboscis is stout, swollen towards the base, with bluntly rounded bristly apex; the whole is more or less cylindrical. Palpus large and conspicuous, cylindrical with numerous, long, stout bristles. The antenna is attached near the upper third of the head. The first segment is comparatively elongate, nearly or quite twice as long as the second segment. The third segment is usually shorter than the first and long oval, attenuate apically, without microsegment, the style long, rather stout, with a bristle at the tip; this style is generally longer, from one to two or more times as long as the third segment.

Head, anterior aspect: The face is wide, not quite a third the head width, with either nearly parallel sides, or slightly divergent below; surface pubescent. The gibbosity is usually prominent and rounded but sometimes low, sparsely beset with bristly pile and a few, long, very stout bristles; or with a great deal of long, coarse, bristly pile, and few or many bristles. Generally the bristles are in strong contrast to the pile. The greater part of the lateral margins of the large, oblique, pollinose, slightly concave subepistoma are lined with stout and slender bristles. Cheeks prominent and pubescent. Front slightly wider than the upper face, quite short, pollinose, the middle third excavated so that the lateral portions are sloping and bear an irregular, dense band of slender, marginal bristles and a multiple subocular row of long, stout and slender bristles. The vertex is deeply excavated, both anteriorly and posteriorly, the ocellarium low with a tuft of numerous, short bristles or sometimes 1 to 3 pairs of long, quite stout bristles.

Thorax: The mesonotum is high, abrupt both anteriorly and posteriorly, tending to be compressed anteromedially; the whole surface is pollinose and almost all of the pile consists of numerous, stout, subappressed setae. There is some fine, anterior pile on the humerus and above the wing. Acrostical elements are differentiated as a broad, medial band but dorsocentral elements are only found on the posterior half; the suture is oblique. The lateral complement of long, stout bristles contains 2 to 4 notopleural, 1 supraalar, 1 suprapostalar, 2 or 3 postalar and 2 to 4 pairs of scutellar bristles. Pronotum with bristles; the prothoracic pile is abundant. Anterior margin of the mesopleuron and the posteroventral margin with a fringe of long, slender bristles or bristly pile and setae in the upper corners. Anterior basalare with conspicuous, long, numerous bristles or bristly hairs. Pteropleuron and sternopleuron and the posthypopleuron with bristly pile. Metapleuron with a band of bristles and pile. Metanotal callosity creased behind, bullose and micropubescent only. Metasternum pilose, the postmetacoxal area membranous and pollinose and pilose. Prosternum dissociated strongly.

Legs: All the femora are quite stout, the first four are a little swollen, especially basally. Pile of femora and tibiae sometimes almost wholly flat appressed and merely coarse, or setate, or with long, erect, ventral fringes of pile. Bristles stout, blunt and conspicuous; typically on the hind femur there may be 4 lateral bristles, including the one at the subapex, 1 dorsomedial at the subapex and 1 at the apex, besides 6 or 7 ventrolateral bristles, all spikelike. Hind tibia with 3 or 4 dorsolateral, a like number of dorsomedial, which may be lacking, and 2 ventrolateral bristles; apex with 5 bristles. Coxa laterally with bristles on the hind four and extremely numerous, long, anterior bristles or bristly hairs on the first four. Middle femur with 1 or 2 bristles anteriorly and posteriorly on the basal half, or with as many as 4 anteriorly, 3 anteroventral, and 3 or 4 posteroventral, and none posteriorly except at the apex. Anterior femur with only 1 or 2 bristles at the apex. The tibial rows have 2 to 4 bristles. Claws long, bent at the apex, moderately sharp; the pulvilli long; the empodium long and bladelike. Pulvilli with 2 stiff, longitudinal bands.

Wings: The wings are elongate; the marginal cell is slightly widened at the expense of the costa in both sexes and faintly rippled; this cell is closed with a short petiole. The anterior branch of the third vein arises at, before or beyond the posterior crossvein. Both branches of the third vein, in one species group, end before the wing apex; in other groups at or beyond the wing apex. Most species have the anterior branch of the third vein arising as a crossvein with a basal spur; other species groups are without the crossvein and the anterior branch arises gradually. The fourth posterior cell is closed and stalked; alula large, the ambient vein complete. Those species with three complete marginal cells belong properly in the genus *Efferia* Coquillett.

Abdomen: The abdomen is robust at base; only the first tergite is as wide as the mesonotum; the surface is generally pollinose, often with bands or spots of silvery pollen and in some groups with divided hair-flocks across the top of the tergites. Pile generally very scanty, appressed, fine and setate, but longer laterally, at least on the first segments, and either short, or extremely long on the first several sternites. Only the first tergite has bristles. Males with eight tergites, the last short, with only membrane exposed medially. Females with seven tergites before the ovipositor. Male terminalia characteristically large, elongate, clublike. The superior forceps usually quite long, generally compressed laterally. The gonopod is not as long but quite prominent and often has fringes of ventral hairs; hypandrium short, collarlike, extending high up on the sides at the base of the terminalia. The female terminalia characteristically with a quite elongate, strongly compressed eighth segment; the ninth segment similar but much shorter; the terminal proctiger is small and finely pilose.

Distribution: Nearctic: *Nerax aestuans* Linné (1767) [=*aestuans* Fabricius (1805), *aestuans* Macquart (1834), *bastardii* Macquart (1838), *incisuralis* Macquart (1838), *macrolabis* Wiedemann (1828), *niger* Wiedemann (1821), *tibialis* Macquart (1838)]; *anacapai* Wilcox and Martin (1945); *antiphon* Walker (1849); *apicalis* Wiedemann (1821) [=*vicinus* Macquart (1846)]; *argentifrons* Hine (1911); *argyrosoma* Hine (1911); *aridus* Williston (1893); *armatus* Hine (1918); *aurimystaceus* Hine (1919); *auripilus* Hine (1916); *barbatus* Fabricius (1805) [=*albibarbis* Macquart (1838), *cinerascens* Bellardi (1861), *furax* Williston (1895), *pogonias* Wiedemann (1821), *tricolor* Bellardi (1861)]; *belfragei* Hine (1919); *benedicti* Bromley (1940); *bexarensis* Bromley (1934); *bicaudatus* Hine (1919); *californicus* Schaeffer (1916); *canellus* Bromley (1934); *canus* Hine (1916); *clementi* Wilcox and Martin (1945); *coquillettii* Hine (1919); *cressoni* Hine (1919); *cuervanus* E. Hardy (1943); *dubius* Williston (1885); *femoratus* Macquart (1838); *grandis* Hine (1919); *harveyi* Hine (1919); *helenae* Bromley (1951); *inflatus* Hine (1911); *interruptus* Macquart (1834) [=*ambiguus* Macquart (1846), *lateralis* Macquart (1838), *maculatus* Macquart (1838)]; *jubatus* Williston (1885) [=*prolificus* Osten Sacken (1887)]; *kansensis* Hine (1919); *knowltoni* Bromley (1937); *latrunculus* Williston (1885); *leucocomus* Williston (1885); *mesquite* Bromley (1951); *monki* Bromley (1951); *nemoralis* Hine (1911); *notabilis* Macquart (1838); *pallidulus* Hine (1911); *pilosus* Hine (1919); *plenus* Hine (1916); *prairiensis* Bromley (1934); *pratti* Hine (1919); *productus* Hine (1919); *rufibarbis* Macquart (1838) [=*aestuans* Wiedemann (1821) not Linné, *completus* Macquart (1838), *dascyllus* Walker (1849), *ravus* Coquillett (1893), *virginianus* Wulp (1882)]; *slossonae* Hine (1919); *snowi* Hine (1919); *stramineus* Williston (1885); *spiniventris* Hine (1919); *subaridus* Bromley (1940); *subcupreus* Schaeffer (1916); *subpilosus* Schaeffer (1916); *tagax* Williston (1885) [=*similis* Williston (1885)]; *tabescens* Banks in Hine (1919); *tanneri* Bromley (1938); *texanus* Banks in Hine (1919); *tricellus* Bromley (1951); *truncatus* Hine (1911); *tuberculatus* Coquillett (1904); *utahensis* Bromley (1938); *varipes* Williston (1885); *vertebratus* Bromley (1940); *wilcoxi* Bromley (1940); *willistoni* Hine (1919); *zonatus* Hine (1919).

Neotropical: *Nerax abdominalis* Wiedemann (1821); *affinis* Bellardi (1861) [=*marginatus* Bellardi (1861)]; *albescens* Schiner (1868); *albicans* Carrera and d'Andretta (1953); *albispinosus* Macquart (1849); *amazonicus* Bromley (1934); *amphissa* Walker (1849); *aper* Walker (1855); *argyrogaster* Macquart (1846); *auribarbis* Wiedemann (1821); *aurivestitus* Hine (1919); *badiapex* Bromley (1928); *bardyllis* Walker (1849); *bicolor* Bellardi (1861); *bilineatus* Wulp (1882); *bimaculatus* Bellardi (1861); *brunnescens* Bromley (1929); *camposiana* Curran (1931); *carinatus* Bellardi (1861); *cazieri* Curran (1953); *cellatus* Schiner (1868); *chapadensis* Bromley (1928); *chiliensis* Macquart (1849); *cinereus* Philippi (1865); *cingulatus* Bellardi (1861); *cockerellorum* James (1953); *comatus* Bellardi (1861); *commiles* Walker (1851); *concinnatus* Williston (1901); *costatus* Schiner (1868); *cubensis* Bromley (1929); *culiciformis* Walker (1855); *currani* Bromley (1951); *demifasciatus* Macquart (1849); *dilectus* Walker (1855); *disjunctus* Williston (1901); *eurylabis* Wiedemann (1828); *eximius* Bellardi (1861); *flavidus* Macquart (1838); *flavidus* Wiedemann (1828); *flavofasciatus* Wiedemann (1828); *fulvibarbis* Macquart (1848); *fulvithorax* Macquart (1838); *fuscanipennis* Macquart (1849); *fuscipennis* Macquart (1847); *fuscus* Wiedemann (1828); *haloesus* Walker (1849); *heteropterus* Macquart (1846); *hubbelli* James (1953); *hyalipennis* Macquart (1838); *imbuda* Curran (1934); *labidophorus* Wiedemann (1828); *lades* Walker (1849); *lascivus* Wiedemann (1828) [=*amarynceus* Walker (1849)]; *loewii* Bellardi (1862) [=*dolichogaster* Williston (1901)]; *medianus* Wiedemann (1828); *mellinus* Wiedemann (1828); *mexicanus* Hine (1919); *migdon* Walker (1851); *minor* Macquart (1847); *murinus* Philippi (1865); *nigrinus* Wiedemann (1821); *nigripes* Macquart (1849); *nigritarsis* Hine (1919); *obscurus* Macquart (1838); *pachychaetus* Bromley (1928); *parphorus* Walker (1857); *parvulus* Bellardi (1861); *parvus* Walker (1855); *patagoniensis* Macquart (1849); *pavidus* Williston (1901); *perniger* Schiner (1868); *pictipennis* Schiner (1868); *pilosulus* Bromley (1929); *poecilolamprus* James (1953); *portoricensis* Hine (1919); *potamon* Walker (1857); *propinquus* Bromley (1928); *pulchripes* Bromley (1928); *pumilus* Macquart (1849); *pumilus* Walker (1855); *pyrrhogonus* Wiedemann (1828); *quadrimaculatus* Bellardi (1861); *rapax* Osten Sacken (1887); *rubidiventris* Macquart (1849); *rufinus* Wiedemann (1819); *rufipes* Macquart (1838); *rufithorax* Macquart (1846); *rufitibia* Macquart (1848) [=*fortis* Walker (1855)] *sagax* Williston (1901); *schadei* Bromley (1951); *senilis* Wiedemann (1828); *sicyon* Walker (1849); *singularis* Macquart (1838); *splendens* Williston (1901); *stigmosus* Carrera and d'Andretta (1950); *stimicon* Walker (1851); *striola* Fabricius (1805); *stylatus* Fabricius (1775) [=*caudex* Walker (1849), *haitensis* Macquart (1848), *invarius* Walker (1851)]; *subappendiculatus* Macquart (1838); *subchalybeus* Bromley (1928); *titan* Bromley (1934); *tortola* Curran (1928); *triton* Osten Sacken (1887); *unicolor* Bellardi (1861); *vauriei* Curran (1953); *velox* Wiedemann (1828); *zetterstedtii* Jaennicke (1867).

Country unknown: *Nerax asper* Walker (1851); *concolor* Walker (1851); *inappendiculatus* Macquart (1838); *leon* Walker (1849); *malis* Walker (1849); *marcinus* Walker (1849); *nervosus* Macquart (1838); *nitidus* Wiedemann (1828); *robustus* Walker (1855).

This genus is one of the largest and most characteristic elements in the New World to which it is confined.

The species of this genus fall into two distinct groups according to their habitat. There are those which, like *Nerax interruptus*, are almost always found on the ground surface and often on sand banks, mud flats or hard baked fields. The other group dwells on twigs and trees. *Nerax* is a dominant genus in the semiarid lands of western America but is also plentiful in eastern parts with higher rainfall and in much of South America. *Nerax interruptus* shows certain anatomical features which ally it to the Chilean *Lochmorhynchus* Engel.

Malloch (1917) gives figures for immature stages of two species of this genus, *Nerax aestuans* and *interruptus*, and Riley (1870) figures larva of *Nerax femoratus* Macquart.

Genus *Diplosynapsis* Enderlein

FIGURES 315, 698, 1436, 1445, 2436, 2480

Diplosynapsis Enderlein, Zool. Anzeiger, vol. 44, p. 259, 1914. Type of genus: *Diplosynapsis argentifascia* Enderlein, 1914, by original designation.

Large flies, immediately recognized by the closure of both the marginal and submarginal cells; the latter has a short stalk. A few American species of *Nerax*, new genus may have the submarginal cell virtually closed or closed at the margin. The face is exceptionally gibbous and abrupt above; the metanotal callosity is creased behind and micropubescent only. Females with greatly compressed ovipositor. Length 25 mm.

Head, lateral aspect: The head is rather long, its length augmented by the greatly produced facial gibbosity; the eye posteroventrally recessive below. The occiput behind the upper eye facet has 5 stout bristles. The proboscis is without the strong, basal carina present in *Nerax*, new genus. Palpus large, with numerous bristles. Antenna as in *Nerax*.

Head, anterior aspect: The face is pubescent, extending on to the prominent cheeks and with a few, scattered, lateral hairs on the gibbosity, including the upper ledge; it bears numerous, exceptionally stout, long bristles, continued down the sides of the deeply concave pubescent, subepistomal area. Front small, elevated, the vertex narrow and deeply excavated, especially behind. The ocellarium is low, with 2 pairs of long, slender bristles. Sides of front with ocular and subocular rows of bristles.

Thorax: The thorax is similar to that of *Nerax*, with more scanty setae. The scutellum is convex, thick, pollinose, with 3 pairs of scutellar bristles; the surface bears erect, bristly hairs and the scutellum is thick, convex, without impressed rim. Pronotum with only dense, fine hairs, except at fartherest lateral corners where there are 2 stout bristles. Metanotal callosity bullose and micropubescent only. Postmetacoxal area with a complete chitinized arch behind the postcoxa and with medial seam. Between this anterior band of chitin and the posterior portion of the metasternum is a broad, transverse band of membrane. Prosternum fully dissociated. Anterior basalare and posterior section of pteropleuron each with several bristles; the latter has longer but more slender elements.

Legs: The legs are similar to *Nerax*. The anterior four are only slightly swollen. Bristles are stout, long and prominent. Claws are strongly bent at the apex and comparatively blunt. Pulvilli and empodium well developed. The hind femur has 2 lateral bristles, a dorsal pair at the subapex and a medial bristle at the apex, also with 6 ventrolateral bristles of which the basal two are paired; in addition there are 6 ventromedial bristles, the basal element is paired, and also 2 medial basal bristles. Trochanters with 4 bristles, The hind coxa has a strong, anterior, mammiform lobe bearing 4 bristles below.

Wings: The wings are tinged with pale brown; there are two submarginal cells only. The anterior branch of the third vein arises as a rectangular crossvein with a basal spur; the anterior branch ends at the wing apex, the posterior branch ends far to the rear. The first posterior cell is narrow in the middle. Fourth posterior cell closed and petiolate. Fork of the third vein opposite or barely beyond the base of the second posterior cell.

Abdomen: The abdomen is attenuate, with scanty, suberect setae. which are slightly longer laterally. The sides of the first and second and basal corners of the third tergite each bear fine, erect pile. Sternites with quite long, fine, scanty pile. Sides of first tergite with three stout bristles. Females with seven tergites, those beyond incorporated into a quite long, high, greatly compressed ovipositor; the ninth segment and the proctiger is short. No males seen.

Distribution: Neotropical: *Diplosynapsis argentifascia* Enderlein (1914); *halterata* Enderlein (1914).

Genus *Ctenodontina* Enderlein

FIGURES 2508, 2514

Ctenodontina Enderlein, Zool. Anzeiger, vol. 44, p. 260, 1914. Type of genus: *Ctenodontina pectinatipes* Enderlein, 1914, by original designation.

The following is Enderlein's description in translation:

> Male. Genus of the Asilinae. Arista without pubescence, broadened a little at the end and with a short bristle. Abdomen (male) very slender and small, the sides parallel; genitalia of male moderately thickened; the anterior branch of the third vein is not connected at its base by any crossvein extending to the second vein; there is no remnant present of any kind of such a crossvein. The anterior and posterior branches of the third vein diverge apically (at the end). Tarsi not prolonged. The fusion (base) of anterior and posterior branches of third vein divergent. The stalk of the marginal cell (fusion of first and second veins) somewhat longer than the marginal distance between these combined veins and the end of the anterior branch of the third vein. Third antennal segment slender, spindle-like, without pubescence. Lower face with a moderately strong gibbosity; mystax on this gibbosity consists of rough bristles and fine hair not arranged in longitudinal stripes. Anterior and middle femora very little thickened. Hind femur strongly thickened, on the underside in the middle with a long row of teeth arranged as a dense comb. Hind tibia on the base stongly deflected or crooked.

Distribution: Neotropical: *Ctenodontina pectinatipes* Enderlein (1914).

I have included figures of the wing and hind leg redrawn from Enderlein. The wing venation and the character of the antennal style or arista suggest a relationship near that of *Lecania* Macquart.

Genus *Lecania* Macquart

FIGURES 308, 741, 1403, 1412, 1604, 2185, 2406, 2409, 2434

Lecania Macquart. Diptères exotiques, vol. 1, pt. 2, p. 131, 1838. Type of genus: *Lecania rufipes* Macquart, 1838, by present designation, the first of 2 species.

Lecania has 1 subgenus, *Pachychaeta* Bigot.

Large flies, quite similar to *Eicherax* Bigot but with a short, poorly developed face forming an extremely low, ventral elevation. The style of the antenna is exceptionally long, slender and dilated at the apex. In some species the style apex may be strongly lamellate or leaflike. The hind tibia is more slender than in *Eicherax* and dilated a little toward the apex. These flies also differ in the broad, short, laterally expanded form of the prominent, club-shaped terminalia. Length 15 to 22 mm.

Head, lateral aspect: The head of medium length, the occiput almost disappearing below at the angle where the eye becomes recessive, but a little more conspicuous ventrally and also near the upper part of the head. The lower occipital pile is scanty, but more abundant than the few scattered hairs which are found along the middle; bristles are set far back from the eye and there are 3 or 4 rather stout, ventrally directed bristles in the middle, followed by a gap and near the upper corner of the eye there are 5 nearly straight, stout bristles and 3 to 6 additional pairs on the slopes of the postvertex. The proboscis is of medium size, cylindrical, of nearly uniform diameter but strongly pointed beginning at the subapical crease. Palpus long and slender, with 2 stout, terminal bristles. The antenna is attached near the upper third of the head and rather similar to *Eicherax*. The first segment of the antenna has numerous, stout, distilateral and ventral setae, or bristles and more slender elements above. The second segment is beadlike and much shorter with short, slender bristles on 3 sides. The third segment is small, long oval, with a long to very long style distally expanded to a varying extent and spine-tipped; in a few species the dilation at the apex is conspicuous and leaflike.

Head, anterior aspect: The face below antenna is less than a fifth the head width, moderately divergent below; the low, ventral, facial eminence arises gradually. Upper portion of the face plane with the eye and pubescent only. Only the lower half of the face has bristles, stout or slender and some shorter, bristly hairs; both of these elements are continued down the sides of the cheeks. Cheeks prominent, pubescent, deeply concave or plane. Front sunken, pollinose, with ocular and subocular row of bristles and the sides slightly divergent. The vertex is more greatly narrowed, strongly excavated with nearly vertical sides; the ocellarium is small, with only a pair of very short bristles situated beyond the ocelli.

Thorax: The thorax is rather less high than in *Eicherax*; the mesonotum is pollinose, with scattered, very short setae including the humerus; and pile is absent, except below the postalar; none above the wing. The lateral complement of bristles is similar to *Eicherax*; and the scutellum is without bristles; the very convex, not impressed rim and surface bears scattered, exceptionally stout, erect setae. Pleuron pollinose, the pile scanty, the pronotum with bristles. Postmesopleuron and its dorsal surface with either pile or setae. Anterior basalare likewise with pile or setae. Posthypopleuron with only very fine hairs; the metapleuron has a vertical row of weak bristles and some pile. Metanotal callosity villose, creased behind, pubescent only. Metasternum pilose; postmetacoxal area entirely membranous. Prosternum greatly dissociated.

Legs: All the femora are a little swollen, especially the first four femora; the hind pair slightly narrowed toward the base; hind tibia is relatively slender, widened distally, with a nearly erect brush of setae, rather than flattened setae. Bristles are prominent, of about the same number as in *Eicherax* on each femur and tibia. Middle femur with 3 stout, anterior bristles, 1 posterior bristle near the base, 1 at the apex and 5 equally stout, ventral bristles. Basitarsus comparatively short, as long as the next 2 segments; claws rather slender, strongly bent at the apex, a little pointed; pulvilli and empodium well developed.

Wings: The anterior branch of the third vein arises from an oblique crossvein with a minute, basal spur or may arise gradually. The second submarginal cell is narrow throughout. The anterior branch of the third vein ends shortly before the wing apex and the posterior branch ends shortly behind. The fourth posterior cell is closed and stalked; fork of the third vein distinctly beyond the posterior crossvein. Anal cell closed and stalked. Alula large, ambient vein complete.

Abdomen: The abdomen is similar to that of *Eicherax* but with slender bristles along the subposterior margin laterally on all tergites. Only those of the first tergite are stout. First two sternites with scattered, long pile; first sternite bare with no pile and pollinose only, differing from *Eicherax*. Males with eight tergites, both the seventh and eighth greatly shortened, especially in the middle, their sternites, however, long. Since the terminalia tend to be flexed upward, the last tergite may be also bent upward. The male terminalia, especially the superior forceps, which are not divided to the base, are greatly expanded laterally and widened; they are also convex laterally. Gonopod short, convex and bulbous, but wedged in between the laterally expanded and convex hypandrium. Females with the ovipositor composed of the moderately elongate, laterally compressed eighth segment, which is only a little longer than the seventh. Ninth segment and the proctiger short.

Distribution: Neotropical: *Lecania annulipes* Macquart (1846); *apicalis* Bromley (1934); *complicata* James (1953); *copulatus* Wiedemann (1819); *ctesicles* Walker (1851); *genitalis* Bromley (1934); *hilari* Macquart (1838); *lestes* Williston (1901); *leucopygus* Wiedemann (1828); *rufipes* Macquart (1838); *virilis* Wiedemann (1828).

Oriental: *Lecania tabescens* Rondani (1875).

Country unknown. *Lecania dasius* Walker (1849); *femoratus* Macquart (1838).

Subgenus *Pachychaeta* Bigot

FIGURES 699, 2440, 2446

Pachychaeta Bigot, Ann. Soc. Ent. France, ser. 3, vol. 5, p. 545, 1857. Type of subgenus: *Erax annulipes* Macquart, 1846, by original designation.

Lecania Macquart was founded on a species with the apex of the arista flattened and lamellate to a remarkable extent in both sexes, although a little more extensive in males. *Pachychaeta*, on the other hand, was founded on flies which, because of similar face, wing venation and terminalia, obviously are related to *Lecania*, yet have the aristal apex much less conspicuously flattened and in many species the flies can hardly be determined on the character of the arista. For this reason I believe it is necessary to retain *Pachychaeta* in a subgeneric sense.

Genus *Catostola* Hull

FIGURES 349, 394, 786, 1512, 1521, 1545, 1554, 2201, 2205, 2484, 2501

Catostola Hull, Brasileira Biol., vol. 18, no. 3, p. 320, 1958. Type of genus: *Catostola carrerai* Hull, 1958, by original designation.

Small flies, comparatively slender, with broad face only slightly produced below. Short, third antennal segment has a long, fine style and the hind femur is distinguished by a patch of dense, short, stout, subtuberculate bristles situated medially on the apical third. Also, the male terminalia are curious on account of the short forceps and the greatly exaggerated eighth sternite, which is wide at the base and extends at least as far as the forceps. Length 15 mm.

Head, lateral aspect: The head is of medium length. The face on the upper half is nearly plane with the eye; it is a little produced immediately below the antenna and the lower half of the face is slightly produced and rounded and more conspicuous on account of the recession of the eye. The occiput everywhere bears short, dense, fine pile below; along the middle it has slender bristles, which are distinctly turned downward, and above at the upper eye corner 3 or 4 stout, proclinate bristles. Proboscis rather slender, tapered to a blunt point near the apex and with a subapical crease. Palpus moderately stout and cylindrical with numerous, stout bristles. The antenna is attached a little above the middle of the head; the first segment is comparatively elongate and slender, more than twice as long as the short, bead-like second segment and also longer than the long, oval third segment. The first segment bears setae at the dorsal apex and ventrally as well as a number of comparatively stout though short, oblique bristles. Second segment rather densely setate above and below. The third segment is narrowed apically and bears a scarcely noticeable, very short microsegment and a rather long, slender style which is a little thicker distally and has bristles at apex. This style is a little longer than all 3 segments together.

Head, anterior aspect: The width of the head is 1⅔ the height and the head is a little wider below than above. The enlarged anterior facets are demarcated and this portion of the eye is rather flattened. The face is rather wide beneath the antenna, not quite a fifth of the head width and it is distinctly wider below. The whole surface is finely appressed micropubescent. There are a few hairs on the upper half along the eye margin, short and appressed. In the middle the lower half bears a large, dense, triangular patch of numerous, long, slender bristles mostly white but partly black. The medial elements are stouter and there is a rather dense fringe along the subepistomal margin. Cheeks short. Front very slightly widened anteriorly, narrowed behind and the vertex distinctly narrowed, moderately excavated with sloping sides. The small ocellarium bears a pair of moderately long, postocellar bristles curved forward.

Thorax: The thorax is rather short and high especially on the metanotum. Whole mesonotum arched, pollinose, with a differentiated band of long, stout, acrostical setae; there are slightly longer dorsocentral bristles over the middle which become longer behind but are still slender. The lateral bristles are, however, stout as well as long and finely attenuate. There are 2 notopleural, 2 supraalar, both rather far to the rear, 1 on the postalar callosity and none on the scutellum. The thick, convex, pollinose scutellum bears scattered, coarse hairs on the disc and some on the margin, and there is no impressed rim. Metanotal callosity pollinose only and marginate posteriorly. Pleuron pollinose with numerous, long, coarse or bristly hairs on the upper and posterior mesopleuron and with coarse, long hairs on the pteropleuron, upper sternopleuron and hypopleuron. Metapleuron without true bristles but with numerous, long, bristly hairs in a vertical band. Anterior basalare with 2 or 3 weak bristles or bristly hairs. Propleuron with the usual pile, pronotum with at most 1 or 2 weak bristles but with considerable pile. Postmetacoxal area membranous; prosternum fully dissociated.

Legs: All the femora are distinctly stout, the first four are a little thickened towards the base. The hind pair is a little thickened from the base to the apical fourth where it is again a little narrowed. All bear dense, fine, appressed setae except that the ventral or posterior surfaces are largely bare. Hind femur with 2 lateral bristles, 1 dorsolateral at the subapex, a similar one dorsomedially, and 2 smaller medial bristles at the apex; also there are a group of 4 or 5 long, slender bristles ventrally on the basal half, 2 ventrolateral bristles situated at the distal swelling, and at the outer fourth ventromedially a patch of 10 or 12 short, stout, spikelike microtuberculate bristles attached in 2 rows. Along the basal half medially is a fringe of rather long, bristly hairs which extends to the end of the medial patch of bristles. Hind tibia slender at base, thickened towards the apex. This tibia has a stout, dorsolateral bristle at the base and 1 beyond the middle, another ventrally at the apical fifth; medial surface with ranked setae on more than the apical half. Hind basitarsus stout or a little swollen, longer than the next three segments. Middle femur with 3 conspicuous, long, basally stout, attenuate, anterior bristles along the middle, evenly spaced and also with 4 similar anteroventral bristles; apex posteriorly with 1 bristle. Middle tibia with 2 weak, posterodorsal bristles beyond the middle and with 4 long, posterior bristles, also 2 still longer posteroventral bristles and along the middle 3 conspicuously long, stout ventral bristles.

Anterior femur with a dorsal fringe of 10 long, fine, bristly hairs and a similar ventral fringe. Anterior tibia with a conspicuous, stout, anterodorsal bristle at the base but posteriorly only with a fringe of numerous, long, erect, bristly hairs mixed in with which are 3 elements, which might be described as weak bristles. Claws slender, bent at apex and sharp; pulvillus long, large; the empodium bladelike.

Wings: The wings are hyaline, without villi. The marginal cell is closed with a moderately long stalk. The anterior branch of the third vein ends above the apex, the posterior branch an equal distance behind. The base of the second submarginal cell is actually widened anteriorly but the posterior branch of the vein is deflected some posteriorly. Fourth posterior cell and anal cell closed and stalked. Posterior crossvein absent, the veins fused a short distance. Alula large and wide basally; ambient vein complete.

Abdomen: The abdomen is comparatively slender, cylindroid and tapered. Sides of first segment with 3 stout, pale bristles and numerous, long hairs. Middle of first segment with a fissure or cleft. Surface of abdomen with scattered, fine, appressed setae and abundant, long pile laterally on the second segment and shorter pile on the third segment but with a conspicuous, dense, characteristic band or patch of pile laterally on the sides of the sixth and seventh segments. The first, second and sixth sternites also bear abundant, long, fine pile. Posterolateral corners of second and third segments each with 2 or 3 moderately stout bristles. Males with 8 tergites, the seventh is only one-fourth as long as the sixth across the middle but longer laterally and both of these segments have long, medial, posterior, membranous margins. Eighth tergite in the middle is half as long as the reduced seventh, but a little longer laterally and without pollen. The male terminalia comparatively short but moderately large. The superior forceps broad basally and widely separated at the base, narrowed along the middle and again widened distally. The gonopod is comparatively long, curving upward to meet the end of the forceps. It and the hypandrium are laterally wedged in between the forceps and the remarkable eighth sternite, which is not only long and wide but has a long, wide, medial, scooplike, apical process, thick and densely beset with bristles apically. The proctiger is long, rather densely pilose and oblique.

Distribution: Neotropical: *Catostola carrerai* Hull (1958); *maya* Carrera and d'Andretta (1953).

The species *Ctenodontina maya* Carrera and d'Andretta and *Catostola carrerai*, new species are, I believe, distinct and as they seem to me to be quite different from the genus *Ctenodontina* Enderlein, as that author illustrated it, I have concluded to make a new genus for them. I have seen at least one and possibly two other undescribed and larger species from western South America which also belong here. There may be a number of undescribed forms. The curious, oval, depressed, lateral expansion of the female, illustrated by Carrera and d'Andretta (1953) is characteristic; notice also an anterior, rimlike expansion of the posterior coxa.

Cratolestes, new genus

FIGURES 360, 749, 1438, 1447, 2178, 2204, 2455, 2469

Type of genus *Asilus spectabilis* Philippi, 1865.

Moderately large, rather robust species with considerable pile and extremely dense pile about the face and lower occiput. The facial gibbosity is prominent and occupies more than the ventral half; it has much bristly pile but no stout bristles. Last 3 tergites greatly shortened, giving them an appearance which resembles *Apiocera* Westwood. Both branches of the third vein end above the apex of the wing and the base of the second submarginal cell has a spur vein. Male terminalia prominent and elongate, the superior forceps emarginate laterally; female terminalia only moderately compressed. Length 20 mm.

Head, lateral aspect: The head length normal. The face is slightly visible beneath the antenna, narrowly plane across the middle and with the lower three-fourths prominent and gently protuberant. Eyes strongly recessive anteroventrally beginning at the lower fourth. Occiput moderately prominent throughout, extending almost to the vertex; lower occiput more extensive; occipital pile scanty through the middle but on the lower third of the head it forms a dense, fine, long, crinkled tuft, which obscures the ground color. Bristles begin below the middle and become somewhat more stout dorsally; they are straight or slightly curved and with about 30 on each side. Proboscis of moderate size, rather strongly and gradually swollen laterally towards the base and also dorsoventrally, so that it is narrowly subconical. Apex bluntly rounded bearing a few, stiff hairs. The basal half ventrally has numerous, long, stiff hairs. Palpus of one segment, with stiff pile ventrally and long, stiff, curved bristles dorsally and apically. The antenna is attached at upper third; the first segment is nearly twice as long as the second; the third not quite as long as the first two combined. The third segment is laterally compressed, rather short pyriform and bears a short, stout, curved style, a little thickened apically, 1½ times as long as the third segment and bears a minute, apical spine. First antennal segment ventrally with numerous, stiff, moderately long, appressed hairs; second with fewer, shorter, similar hairs.

Head, anterior aspect: The face below the antenna is nearly a third of head width and moderately divergent below. Face pubescent with abundant, long, stiff, white pile everywhere, except narrowly along the eye margin; it grades into weak bristles and along the epistomal margin are 5 or 6 rather stout, pale bristles to which others are added centrally above. Subepistomal margin with pale bristles and pile. Subepistoma large, conspicuous and shallowly concave down the middle; the cheeks are high. The front is slightly divergent, the vertex slightly convergent; the former bears a conspicuous tuft of long, stiff, while pile and 4 pairs of long, stiff, black bristles; vertex deeply excavated, but the ocellar protuberance rather low bearing 3 or 4 pairs of black bristles and an additional equally long, weak, white bristle. Eye facets enlarged.

Thorax: The thorax is pollinose including pleuron. The pile of the mesonotum is everywhere dense, suberect, rather long setate; a wide band of acrostical setae present with on each side a narrow, bare stripe and all the remainder of the lateral portion densely setate. The setae give way to coarse pile above the wing, behind the humerus and on the humerus. Dorsocentral elements posteriorly become much longer as well as all of the bristles in front of the scutellum. Lateral bristles are stout and long, and consist of 4 humeral, 2 notopleural, 1 postsupraalar; 3 to 6 weak, suprapostalar, 7 postalar, and the entire posterior half of the very thick, convex, emarginate scutellum is covered with numerous, extremely long, rather stout, black bristles; the lower apical row contains 8 to 10 pairs; anterior half of the scutellum with long, stiff pile. Pleuron everywhere covered with long, fine, white pile. Anterior pronotum with 3 or 4 weak bristles. Upper margin of mesopleuron with numerous, long, erect, stiff, black hairs and 4 or 5 weak, black bristles. Posterior half of mesopleuron with 20 long, slender, black bristles; anterior prolongation with large tuft of long, white pile; upper sternopleuron with extensive tuft of long pile, pteropleuron and posthypopleuron with similar long tufts; anterior hypopleuron apilose; metapleuron pilose with vertical row of 12 to 15 long, stout, black bristles. Metanotal slopes bullose, micropubescent only. Lateral and ventral metasternum densely long pilose; postmetacoxal area membranous; tegula pubescent; anterior basalare with a conspicuous tuft of 20 or more long, slender, black bristles and additional stout hairs along its anteroventral margin. Squama with a long multiple fringe of pile.

Legs: Only the anterior femur is slightly thickened towards the base; all pile is white, all bristles black. Hind femur with 1 medioapical bristle and 1 additional bristle a short distance behind it; also it has 6 lateral, 7 ventrolateral, 6 ventromedial which are slightly longer; the hind tibia bears 6 moderately long dorsomedial, 5 equally long dorsolateral, 3 ventrolateral and in the middle 1 or 2 weak ventral bristles; medial surface with appressed setae extending from just before the middle and continued on the first two tarsal segments; apex with 1 dorsal, 1 lateral and 4 ventral bristles. Middle femur with 1 posterior bristle before the middle, 3 stout anterior bristles along the middle, 7 anteroventral, and 12 or more strong ventral bristles. Middle tibia bears 4 or 5 dorsal, 3 anterior, 3 posterior, 2 posteroventral, and 2 strong ventral bristles situated on the outer half; apex with 2 dorsal, 2 posterior, 2 anterior and 4 ventral bristles. Anterior femur with 5 rather strong ventral bristles spread along the middle and with some slender, erect, long, pale hairs ventrally. Anterior tibia with 5 dorsal, the basal 2 stout and longer, 3 or 4 posterior dorsal and 2 long, quite stout ventral bristles on the outer half; apical circlet of 10 bristles which are long and stout. Tarsi end with long, thin, truncate pulvilli, long, bladelike empodium, sharp claws, flattened dorsally, strongly bent apically.

Wings: The wings are hyaline; the marginal cell is closed; both branches of the third vein end above the wing apex; the anterior branch emerges near the end of the discal cell; second basal cell ends with two veins, anal cell closed, fourth posterior cell closed and petiolate; alula large, ambient vein complete. In both sexes there is a short but distinct spur near the origin of the anterior branch of third vein.

Abdomen: The abdomen is rather robust and somewhat shortened and at least as wide as the mesonotum, also as long as the wings. The first tergite is strongly swollen, convex and ridged laterally. Pile of abdomen scanty, fine and appressed but longer on the sides of the first three tergites in both sexes. Bristles restricted to first tergite, which laterally bears a tuft of 10 to 12 weak bristles. Sternites with long, fine pile, except on the first. Male with eight tergites but the last three quite short. In the male the seventh and eighth each dorsally about half as long as the sixth, the sixth half as long as the fifth, the fifth two-thirds as long as the fourth. The sixth and seventh tergites are a little longer laterally. Female with seven tergites well developed, the eighth elongate but incorporated in ovipositor. Male terminalia quite large and conspicuous, elongate, not rotate. The superior forceps deeply emarginate or widely cleft laterally; interior structures exposed ventrally. Gonopod large but only about a third as long as superior forceps. Hyandrium well developed. Female terminalia moderately but not conspicuously compressed laterally. The upper margin is more or less convex, wider in lateral view than in dorsal aspect; the terminal piece bears only stiff setae.

Distribution: Neotropical: *Cratolestes spectabilis* Philippi (1865).

Genus *Cerozodus* Bigot

FIGURES 372, 712, 1399, 1408, 2442, 2443

Cerozodus Bigot, Am. Soc. Ent. France, ser. 3, vol. 5, p. 543, 1857. Type of genus: *Asilus nodicornis* Wiedemann, 1828, by monotypy.

Small or medium size flies resembling *Asilus* Linné but the metanotal callosity is bare and several abdominal segments bear lateral bristles. They are quickly recognized by the odd antenna. The third segment is flat and wide with obliquely truncate apex and in males bears besides, a minute adjacent microsegment, a wide, basal expansion of the style; females with a less modified style. Remainder of style slender with thickened tip. Length 14 to 17 mm.

Head, lateral aspect: The head is of medium length and the face short, barely concave on the upper half and with a low, gently rounded, ventrally retreating elevation on the lower half. The occiput is quite short, both above and below but is concave medially. The posterior margin of the eye is posteroventrally recessive on the lower sixth; the lower occipital pile is fine, long and abundant. Long, slender bristles begin below the middle of the head and there are 6 pairs which extend upward and are turned downward. At the upper corner of the occiput there are 3 somewhat more stout, vertically directed bristles. The proboscis is small and cylindrical, from the dorsal aspect widened towards the base. The apex is bluntly rounded, the palpus small, cylindrical with bristly pile and slender apical bristles. The antenna is attached a little above the middle of the head and comparatively short. The first segment is 2 or more times as long as the small, beadlike second segment. The third segment is wide and flat, abruptly narrowed towards the base and slightly narrowed before the apex, leaving the end of this segment obliquely truncate and slightly concave. It is followed by a small microsegment attached at the dorsoapical border and in females a comparatively short, basally thickish style, also distally thickened, which is as long as the three segments combined. In males, however, the base of this style is expanded into a flat, ventral, winglike process, the remainder of the style being similar to the female. The apex of the first segment above is extended as a short process.

Head, anterior aspect: The head is wider below than above and about 1⅔ times wider than high, the cheeks of moderate extent. The face below antenna is a fifth the head width and divergent below. The upper third of the face is without pile, the surface everywhere pubescent. Above the subepistomal area is 1 row containing 3 pairs of stout, long, pale bristles and 2 or 3 others dorsally. There are more slender bristles along the sides of the large and oblique subepistoma. On the lower third of the face are also 4 or 5 long, slender bristles sometimes black. Front slightly divergent, pollinose, flat, with a transverse, impressed line, a subocular row of 5 bristles and a sublateral anterior row of 4 conspicuous bristles. The vertex is strongly narrowed above, moderately deeply excavated, especially behind, the medium size ocellarium is set far forward so that all ocelli are visible in profile. It bears 2 pairs of stout bristles behind the ocelli.

Thorax: The thorax is comparatively high and about equally arched anteriorly and posteriorly. The surface is pollinose and covered with rather scattered, stubby, fine, suberect setae, including the humerus. Acrostical elements consist of a narrowly delimited, broad, medial band. Posteriorly is a single pair of long, but stout dorsocentral bristles and before and after them sometimes an additional, slender, bristly hair. The lateral complement of stout, long bristles consists of 2 notopleural, no supraalar, 1 suprapostalar, 1 postalar, and no scutellar. Scutellum convex with erect, pale setae and faint trace of impressed rim. Pronotum with 3 or 4 pairs of weak bristles. Dorsal and posterior borders of mesopleuron and the anterior basalare with stubby setae. The mesopleuron has some fine pile below and a little on the sternopleuron and pteropleuron and also the posthypopleuron. Metapleuron with a narrow band of slender bristles and bristly pile; metanotal callosity pubescent only. Postmetacoxal area membranous; the prosternum dissociated.

Legs: The hind femur only moderately stout; the middle pair is a little swollen and the anterior pair considerably swollen dorsally. The pile is fine, appressed and setate. The ventral surface of the hind femur has 6 or 7 pale, slender bristles, the black, remaining bristles of the legs are stout basally, but unusually slender and sharp, long and slightly curved. The hind femur bears 3 dorsolateral, 4 ventrolateral, 1 dorsomedial at the subapex, and 3 medial bristles at the apex. The hind tibia has 3 dorsolateral bristles evenly distributed with 1 at the base and 1 ventrolateral on the outer fourth; apex with 5 bristles. Middle femur with 3 anterior and 5 anteroventral bristles and 1 at the apex posteriorly; the whole posterior surface is nearly bare. Middle tibia with 2 fine anterodorsal and 2 posterodorsal, 2 posteroventral and 2 anteroventral bristles. Anterior femur bare on posterior surface. The anterior femur bears at the middle 1 posteroventral bristle. Bristles of the anterior four tibiae are reduced. Anterior tibia similar but with a single, basal, conspicuous, anterodorsal bristle and with the posterior bristles longer. Claws long, slender, sharp; the pulvilli and empodium also long.

Wings: The marginal cell is closed with a moderately long stalk; this cell a little widened and rippled. The anterior branch of the third vein ends a little before the apex of the wing, the posterior branch and equal distance behind. Fourth posterior cell closed and stalked, the anal cell likewise; the alula large; the ambient vein complete.

Abdomen: The abdomen is cylindroid and comparatively narrow, but in the males it is widened basally on the second segment and on the females tapered and acute posteriorly. Surface pollinose, the pile rather scanty, in part fine but tending near the middle of the tergites to be setate and all of the pile flat appressed, except on the sides of the first three tergites. The first tergite laterally has 4 pairs of slender bristles and a number of bristly hairs. Subposterior margin laterally on the second or third segments with a transverse row containing 4 or 5 distinct bristles; and weaker bristly hairs are present in a similar location on the remaining tergites. Males with eight tergites, eighth is completely concealed in the middle and only visible laterally. Females with seven tergites exclusive of the ovipositor. Male terminalia comparatively large, the superior forceps divergent with a distal, paddlelike prong or process; the large, thin proctiger is oblique. The gonopod long and the hypandrium prominent with elongate, medial, somewhat upturned, spoonlike process. The female terminalia is cylindrical on the basal half, the outer half of the long eighth segment is rather abruptly compressed in the middle, so that the terminal portion is laterally compressed as flat as a leaf. Ninth and tenth segments elongate, the latter free.

Distribution: Neotropical: *Cerozodus nodicornis* Wiedemann (1828).

Genus *Eccoptopus* Loew

FIGURES 359, 745, 1423, 1432, 2264, 2324

Eccoptopus Loew, Abh. naturw. Ver. Halle, vol. 2, p. 144, 1860. Type of genus: *Asilus longitarsis* Macquart, 1838, by original designation; also, Beschreib. europäischer Dipteren, vol. 2, p. 122, 1871.

Coclopus Becker, Zeitschr. syst. Hymen. und Dipt., vol. 7, p. 58, 1907. Type of genus: *Coclopus lucidus* Becker, 1907, by original designation.

Comparatively large flies, characterized by the exceptionally long, anterior basitarsus. The face has a low gibbosity, which bears dense, rather long, bristly pile; the exceptionally and remarkably long, dense, fine and bushy pile of the lower occiput is conspicuous and the ventral propleural pile is correspondingly copious. There is a prescutellar group of long bristles and 7 pairs of scutellar bristles. The sides of the first three or four abdominal segments bear long pile. The wings are broad across the base. Length 28 mm.

Head, lateral aspect: The face in profile is moderately developed and at a level corresponding to the upper fourth it is very slightly and greatly produced forward, so that the facial elevation is low and inconspicuous. The eyes are strongly convex anteriorly and distinctly recessed anteriorly below. The occiput is of moderate thickness and gradually diminished toward the vertex. Dorsal occipital pile unusually dense and abundant, abundant also in the middle, but below on the lower third it forms exceptionally long, dense tufts of fine, bushy pile, completely obscuring the posteroventral part of the head. Beginning at the lower third of the occiput are about 25 pairs of weak bristles, which become longer and stout and strong dorsally. The proboscis is rather small and short with a high, dorsal ridge, obliquely truncate at apex; the base is unswollen and bears a few, stiff hairs below; apex with a little pile laterally and ventrally. Palpus of one segment with stiff, apical bristles. The antenna is attached slightly above the middle of the head; the first segment is 1½ times as long as the second, the second short, a little widened distally. The third segment is three times as long as its basal width, strongly attenuate from base, with a distinct microsegment and short style, which is no longer than the whole segment. The first segment bears a few, fine, subapical hairs and more numerous, longer, stiff setae below; second segment with a few, short setae above and below.

Head, anterior aspect: Subepistomal area small, concave and pubescent. The face is pubescent and bears dense, abundant, moderately long, stiff pile down the middle, with the pilose area expanding below but beginning only at the upper edge of the gibbosity. Along the anterior and lateral epistomal margin the pile gives way to long, slender, numerous bristles. Front slightly divergent, the vertex a little more convergent. On the sides the front is widely covered with numerous, long, rather strongly appressed, stiff, flattened or bristly hairs. Vertex moderately excavated, with slanting sides; ocellarium moderately large, with a single pair of moderately long, slender bristles and numerous, shorter, fine, divergent hairs. Eyes with the facets centrally enlarged.

Thorax: The pleuron pollinose; the mesonotum is widely pollinose laterally on the humerus and on dorsolateral stripes or bands. Pile of mesonotum abundant but for the most part consisting of microscopic, stout, more or less appressed setae, quite short but longer along the anterior margin and laterally. Acrostical elements present but poorly differentiated. Dorsocentral elements differentiated at the postalar level where there are 4 exceptionally stout, long bristles in each row. Humerus with abundant, long, erect pile. Stout, long, lateral bristles are present and consist of: 2 notopleural, 1 supraalar, 1 suprapostalar, 3 postalar, and 3 to 7 pairs of scutellar bristles. Scutellum only moderately thick, with distinct, impressed rim. The disc bears numerous, erect, stiff hairs and 2 or 3 pairs of additional, slender, submarginal bristles. Propleuron densely pilose, the lower portion with a dense mat of long pile, the pronotum with 10 pairs of stout bristles. Upper and posterior mesopleuron, the upper sternopleuron, and pteropleuron with rather numerous, long, fine hairs. Upper posterior corner of the mesopleuron with 2 or 3 stout bristles; pteropleuron with 2 or 3 bristles; posthypopleuron with 3 long, stout bristles and considerable additional, stiff pile or weak bristles. Metapleuron with 8 to 10 bristles in an irregular row and additional pile. Metanotal slopes with a large patch of stiff, apically curled pile; lateral and ventral metasternum with abundant, long, fine pile. Postmetacoxal area membranous; tegula pubescent only; squama with a wide, multiple row of fine, fluffy pile. Prosternum fused anterolaterally, half of the lateral part replaced by membrane posteriorly.

Legs: The hind femur and tibia and to some extent all the femora and tibiae are elongate and relatively slender; the anterior femur is a little thickened toward the middle and the base and all bear dense, appressed, setate pile on all surfaces. The hind femur has a complement of stout, but rather short bristles, consisting of 1 dorsomedial apical, 1 dorsosubapical, 5 lateral, 10 ventrolateral, 2 ventral near the middle, and 1 ventromedial bristle near the apex. Hind tibia with 4 quite flat, appressed, dorsal bristles, 5 stout, dorsolateral, and 4 flat, appressed, ventrolateral bristles; apex with 8 long, stout bristles. Basitarsus slender, not quite as long as the succeeding three segments. Middle femur with 2 especially stout, posteroapical bristles, 3 anterior, and 8 ventral bristles. Its tibia has 3 flat appressed dorsal, 3 appressed anteroventral, and 3 oblique posterodorsal, besides 8 short, ventral bristles. Anterior femur with a prominent, posterior row of 7 stout, rather long bristles, 14 to 21 slender ventral, and 1 anteroventral apical bristle. The anterior tibia has 9 or 10 short, stout dorsal and 2 exceptionally long, stout, conspicuous, posteroventral bristles at the middle and beyond. Anterior basitarsus is long and slender and slightly longer than the succeeding two segments. Tarsi end in moderately large pulvilli, which extend two-thirds of the length of the claw; the empodium is exceptionally stout, of equal length; and the stout claws are moderately sharp, strongly bent at the apex.

Wings: The wings are hyaline and distinctly wider at the base, narrowing toward the apex; the anal cell is swollen posteriorly. The marginal cell is closed with a short stalk, rippled and rather wide; the costa and subcostal cells are not expanded, subcostal cell quite narrow. Both branches of the third vein end before the wing apex; the second submarginal cell takes origin shortly beyond the end of the discal cell; base of second posterior cell scarcely widened, but first posterior cell greatly narrowed in the middle, chiefly by the second submarginal cell. The second posterior cell is quite wide apically, the fourth vein being carried toward the apex. Fourth posterior cell closed and stalked, slightly convex anteriorly and distally; lower end of the discal cell carried far to the base; anal cell closed and stalked. Second basal cell ends in 2 veins; alula large, ambient vein complete.

Abdomen: The abdomen is less wide than the mesonotum, subcylindrical and distinctly tapered. The first tergite laterally is unusually swollen and convex. The pile of the abdomen is short, fine, flat appressed and setate on the last four tergites, the middles of the preceding tergites and on the last sternites; but the pile is long, abundant, fine and erect, almost bushy on the sides of the first three tergites and rather long ventrally on the second and third sternites. First tergite with a single, long, stout bristle and 1 or 2 slender, bristly hairs. Postmargins of second tergite laterally with 6 quite long, weak, slender bristles. Third tergite with a like number of slightly weaker bristles. Eight tergites present in the male, the last tergite is half as long as the preceding, but longer laterally. Male terminalia moderately large and elongate, of the open type ventrally. The superior forceps are long, more or less cylindrical, a little narrowed, blunt with simple apex and the proctiger lies flatly, inconspicuously between. The gonopod and claspers are prominent but are not as long as the upper forceps. Hypandrium well developed; aedeagus a simple tube. Last sternite unmodified. The whole terminalia tend to be thrust upward. No females seen.

Distribution: Palaearctic: *Eccoptopus longitarsis* Macquart (1838) [=*erythrogastrus* Loew (1871)]; *lucidus* Becker (1907). Australian: *Eccoptopus impiger* Wulp (1892).

Genus *Proctacanthus* Macquart

FIGURES 391, 721, 1421, 1430, 2291, 2325, 2472, 2478

Proctacanthus Macquart, Diptères exotiques, vol. 1, pt. 2, p. 120, 1838. Type of genus: *Proctacanthus philadelphicus* Macquart, 1838. Designated by Coquillett, 1910, the seventh of 9 species.

Acanthodelphia Bigot, Ann. Soc. Ent. France, ser. 3, vol. 5, p. 545, 1857. No species named.

Large, conspicuous flies, characterized by the elongate, tapered abdomen, which extends beyond the wings and the position of the branches of the third vein, both of which end distinctly above the wing apex. Females bear a conspicuous band or hemicircle of very stout spines at the apex of the ovipositor in addition to other dense, small setae; this is one of the characters which separates them from the Palaearctic flies of the genus *Satanas* Jacobson, which resemble *Proctacanthus*. The extension of the abdomen beyond the wings and the more slender forms separate them from *Eccritosia* Schiner. Length 20 to 45 mm.

Head, lateral aspect: The head is of medium length, with the eye narrowed below and strongly recessive posteroventrally on the lowest fifth. The face is short beneath the antenna, but on the lower two-thirds and sometimes three-fourths is a very prominent and conspicuous gibbosity; the cheeks below the eyes are extensive and well developed. The occiput is prominent especially through the middle and below but reaches its greatest thickness submarginally and beginning at or below the middle of the head it bears bristles which sometime extend to the lower third. The upper bristles are stout and there is generally considerable pile on the upper half and very dense, long, fine pile on the lower half of the occiput. Proboscis robust, bluntly pointed, with conspicuous, long, bristly pile on all sides of the apex and dorsally on the apical fourth. Generally there is a prominent, dorsal carina on the basal half and in some species the long, coarse pile ventrally and laterally is exceptionally abundant and extends from the base to or beyond the middle. The pale colored species have a proboscis which approaches that of *Eccritosia* in having the large, boatlike swelling ventrally. Palpus prominent, long and robust, with numerous, long, coarse hairs and bristles. The antenna is attached below the upper third of the head and of moderate length. The third segment is long oval and slightly attenuate on the distal half; microsegments are absent and the thick style is generally shorter or at least no longer than the combined length of all segments.

Head, anterior aspect: The face below the antenna from a fourth to a fifth the head width and strongly divergent below. Face pubescent, the whole of the gibbosity beset either with dense, slender, long bristles and coarse pile, or with very stout bristles mixed with slender bristles and bristly hairs. The stout bristles are characteristically continued down the sides of the epistomal area; pile is absent on the not gibbous upper portion of the face. Front large, pollinose, sunken in the middle; the antenna is set rather far apart; the sides of the front have a long, oval patch or band of bristles which may be often of varying length and thickness. On the front the sides are slightly divergent, converging again at the vertex; the vertex is deeply excavated with steeply sloping sides, the ocellarium large but low and bearing 3 or 4 pairs of very stout bristles between the ocelli and 2 to 4 pairs behind the ocelli. The ocelli are frequently reduced, especially the anterior elements. Medial eye facets enlarged.

Thorax: The mesonotum moderately high, long and pollinose. The pile consists chiefly of short, stubby setae, widely scattered. Acrostical elements are not differentiated and dorsocentral bristles only at the anterior plane of the postalar, where there may be on each side a single row or more often several rows containing 3 to 6 long, stout bristles. Humerus with short bristles or very stout setae. The lateral complement of long, stout bristles includes 2 notopleural, 1 supraalar, 1 or 2 suprapostalar, and 2 to 4 postalar; the scutellar margin contains 2 to 6 pairs of stout bristles and there are generally at least 3 other transverse rows of stout bristles on the disc, besides other bristly pile. Scutellum very thick and convex, without impressed rim. Pronotum with 8 to 10 pairs of stout bristles. Upper border of the mesopleuron with short, flat appressed setae or long, bristly hairs. Upper sternopleuron, posterior mesopleuron, and the pteropleuron and posthypopleuron with scattered pile. Metapleuron with 10 or more quite stout bristles. Metanotal callosity pollinose only. Prosternum dissociated. Metasternum pilose; postmetacoxal area membranous; anterior basalare with both bristles and setae.

Legs: The middle and posterior coxae with stout, lateral bristles; hind coxa and trochanters with 2 or 3 equally stout, postmedial bristles. The femora are quite stout, comparatively elongate and the first 4 distinctly swollen on the basal half and middle. Bristles are conspicuous, numerous, very stout, and rather sharp. Pile is short, subappressed, and setate and there are no conspicuous fringes of pile ventrally on either femora or tibiae. Hind femur with 3 or 4 lateral bristles, 8 to 10 ventrolateral and a like number of ventromedial bristles. Also there are a transverse, dorsal, subapical pair and 2 dorsomedial bristles at apex. The hind tibia bears 5 dorsolateral, 4 dorsomedial and typically 3 or 4 ventrolateral elements, besides 3 ventrolateral bristles. Middle femur with 4 anterior and 5 to 10 posterior bristles, 4 or 5 anteroventral and 8 to 12 posteroventral bristles. Middle tibia often with only a single, long, stout, anterodorsal bristle near or beyond the middle and sometimes a few additional short elements and with 4 or 5 posterodorsal bristles sometimes reduced to 2 stout bristles. Anterior femur with a posterodorsal band of 8 to 14 irregularly placed, short, weak bristles and with ventrally 8 to 14 quite stout, long bristles. Bristles are rather better developed on the anterior tibia, stout but short, except posteroventrally where they are longer. There are 8 anterodorsal, 10 posterodorsal, 4 posterior and 2 to 4 posteroventral bristles.

Claws long, stout, sharp, the pulvilli long and the long empodium blade like.

Wings: The wings are long but shorter than the abdomen, slender with the marginal cell closed and bearing a moderately long stalk. The marginal cell is slightly widened, but scarcely at the expense of the subcostal cell and ripples are only slight. The costa is never thickened, or expanded. Both branches of the third vein characteristically end above the wing apex and the second submarginal cell widens only gradually and moderately in the middle, in contrast to *Satanas* Jacobson. Also, the second posterior cell is only gradually and gently widened at the base. Fourth posterior cell closed and petiolate. Alula large, the ambient vein complete.

Abdomen: The abdomen is robust at the base and tapers rather strongly but gradually, especially in the female, but again in males. The last two or three segments may have parallel sides and be cylindrical. Pile is coarse, often setate, short and subappressed but generally longer on the sides of the first three tergites and in a few species like *Proctacanthus heros* quite hairy along these segments. Males with eight tergites; the last is shortened until usually about only a sixth as long as the preceding tergite. Females with seven tergites not incorporated in the ovipositor and in some species the seventh tergite is also incorporated in the ovipositor. Male terminalia characteristically elongate, especially on the superior forceps which, while completely divided, overlap at base. Proctiger large but not extended dorsally; gonopod much shorter than the forceps; the hypandrium is large, rather long, with plane, transverse, posterior margins. Aedeagus short, not protrusive and sometimes with a fine, terminal filament. Female ovipositor cylindrical, polished, slightly conical or attenuate and elongate. Most of the length is contributed by the eighth segment; both the ninth and tenth segments are quite short and the tenth bears laterally a conspicuous, double row which contains 7 to 10 spikelike spines, besides other stubby setae.

This is one of the most characteristic genera of the Nearctic region and extends into the Neotropical region in Mexico, the West Indies, Colombia, southern Brazil, and Argentina. Species from these last two countries may possibly belong in other genera. They are flies which frequent rank grassland and shrubs on the edges of woodland in swampy country and some prefer sandy river banks.

Distribution: Nearctic: *Proctacanthus arno* Townsend (1895); *brevipennis* Wiedemann (1828); *coquilletti* Hine (1911); *distinctus* Wiedemann (1828); *duryi* Hine (1911); *fulviventris* Macquart (1849); *gracilis* Bromley (1928); *heros* Wiedemann (1828); *hinei* Bromley (1928); *longus* Wiedemann (1821); *micans* Schiner (1867); *milbertii* Macquart (1838) [=?*agrion* Jaennicke (1867), *missouriensis* Riley (1870)]; *nigriventris* Macquart (1838); *occidentalis* Hine (1911); *philadelphicus* Macquart (1838); *rodecki* James (1933); *rufus* Williston (1885); *variabilis* Schiner (1867).

Neotropical: *Proctacanthus antidomus* Walker (1849); *aurolineatus* Macquart (1846); *basifascia* Walker (1855); *bromleyi* Curran (1931); *camposi* Curran (1934); *caudatus* Hine (1911); *coprates* Walker (1849); *craveri* Bellardi (1861); *cruentus* Lynch Arribálzaga (1880); *danforthi* Curran (1951); *daraps* Walker (1849); *darlingtoni* Curran (1951); *dina* Curran (1934); *dominicana* Curran (1951); *exquisitus* Osten Sacken (1887); *fervidus* Curran (1934); *flavipennis* Macquart (1846); *guianica* Curran (1934); *hagno* Walker (1849); *lerneri* Curran (1951); *leucopogon* Wiedemann (1828); *macrotelus* Walker (1837); *mystaceus* Macquart (1846); *nigrimanus* Curran (1951); *nigrofemoratus* Hine (1911); *rubricornis* Macquart (1838); *rubriventris* Macquart (1849) [=*speciosus* Philippi (1865), *xanthopogon* Burmeister (1861)]; *salti* Curran (1934); *tibialis* Macquart (1849); *vetustus* Walker (1837); *vittatus* Lynch Arribálzaga (1880); *vittatus* Olivier (1789) [=*rufiventris* Macquart (1838)]; *xanthopterus* Wiedemann (1828).

Australian: *Proctacanthus durvillei* Macquart (1838); *spilogaster* Thomson (1869).

Country unknown: *Proctacanthus icadius* Walker (1849); *ogulinus* Walker (1849); *robustus* Schiner (1867).

Malloch (1917) discusses the larva of *Proctacanthus philadelphicus* and *milbertii* Packard (1870) also treats the pupa of *Proctacanthus philadelphicus*.

Genus *Eccritosia* Schiner

FIGURES 390, 728, 1370, 1379, 2285, 2334, 2479, 2482

Eccritosia Schiner, Verh. zool.-bot. Ges. Wien, vol. 16, p. 674, 1866. Type of genus: *Asilus barbatus* Fabricius, 1787, by original designation.

Large, stout flies. The robust short abdomen is shorter than the wings; this is the principal character separating these flies from *Proctacanthus* Macquart. The hypopygium is short, with a long, extended, two-pronged aedeagus. Length 22 to 30 mm.

Head, lateral aspect: The head is of medium length; the face is short on the upper half and plane, with a rather prominent but plane gibbosity on the lower half, which usually shows a rather abrupt ledge on its dorsal border. The occiput is prominent, especially in the middle and below and weak bristles extend almost to the bottom of the occiput and become stout near the vertex. The lower sixth of the eye is strongly recessive posteroventrally and the pile upon this area is dense, long and fine, and on the remainder of the occiput coarse and scattered. Proboscis unusually robust, swollen and arched on the lower margin and nearly plane dorsally. At least the distal third dorsally and laterally bears numerous, stiff, bristly hairs, and they are continued below at the apex, which is bluntly rounded. Palpus prominent, long, cylindrical but rather slender, with a trace of the basal segment. The antenna is attached at the upper third of the head and is comparatively short. The third segment is short, pyriform, and without a microsegment; the style is thick and longer than the combined length of all three segments, and bears a spine at the apex.

Head, anterior aspect: The head is wide, with the eyes more or less flattened in front and the medial facets enlarged. The face below the antenna is a fifth the head width and strongly divergent below. The cheeks are unusually high and well developed below the eyes. The face cover is pubescent, generally without pile on the upper half and the gibbous portion bears on its superior aspect a few, scattered, moderately long, bristly hairs, which gradually become longer below and laterally, spreading out to form a triangle, and continued thickly down the lateral margin of the subepistomal area, so that the lower face is fringed or closed with a mystax of dense, quite long, matted, fine, generally pale, bristly hairs. The front is divergent and again convergent near the vertex. It is comparatively large, sunken medially, with a wide lateral band of dense, bristly pile. Vertex moderately excavated with nearly vertical sides that bear pile and with a wide, rather high, rounded ocellarium. There is a row of bristly pile along the medial border of each posterior ocellus continued posteriorly behind the ocellus.

Thorax: The mesonotum is relatively low, long, and pollinose, with greatly reduced pile. The pile consists of scattered, nearly erect setae, longer above the wing, and bristles are only differentiated shortly before the Anteriorly are 4 poorly defined rows of acrostical setae separated into groups of 2 each and dorsocentral pile and bristles are only differentiated shortly before the scutellum, where there are generally 2 or 3 pairs of long, stout bristles. The lateral complement of long, stout bristles consists of 2 notopleural, 1 supraalar, 1 suprapostalar, 2 postalar, and no scutellar bristles on the rim proper. The very thick, convex scutellum does show on each side; distributed through the middle portion there is a cluster of 5 to 8 long, stout bristles and the whole of the faintly pollinose surface is densely beset with long, erect, coarse or bristly hairs; there is a faint trace of the impressed rim. Pronotum with 10 to 15 pairs of stout bristles and other pile. The whole dorsal border of the mesopleuron, its posterior half, most of the anterior basalare, the upper half of the sternopleuron, middle half of the pteropleuron, the posthypopleuron, all bear abundant, long, bristly pile. Metapleuron with similar pile and a vertical row of 6 to 8 quite stout bristles. Metanotal callosity pollinose only. Metasternum long pilose laterally and below. Postmetacoxal area with a rather wide arch of chitin joined anteriorly and notched behind. Prosternum dissociated.

Legs: The femora are stout and comparatively long and only the first 4 femora slightly thickened. The pile of femora and tibiae is unusually abundant and everywhere coarse and bristly; it is especially bristly on the dorsal surfaces of the first 4 tibiae and their femora; it is conspicuous and longer on the ventral surface of the hind femur. The hind tibia dorsally, ventrally and laterally has a conspicuous, dense fringe of rather long, pale pile. Bristles are stout, numerous and rather blunt. The hind femur has 3 or 4 dorsolateral bristles distributed along the middle, 6 ventrolateral bristles, 2 dorsomedial bristles at the subapex. The hind tibia has 3 prominent, dorsolateral bristles, one of them at the base and 2 similar, ventrolateral bristles on the outer half; the apex bears 6 bristles. The middle femur shows 6 prominent, posterodorsal bristles, 4 anteroventral, 3 ventral and 6 to 8 posteroventral bristles. Middle tibia with 2 posterodorsal, 5 anterodorsal, 2 distal anteroventral, and 4 or 5 posteroventral bristles. The anterior femur shows only 5 spikelike, ventral bristles, restricted to the basal half; its tibia has a single, basal, anterodorsal bristle, 6 posterodorsal bristles and 2 or 3 posteroventral bristles; its apex bears at least 10 bristles. Claws sharp; pulvilli and empodium long.

Wings: The wings are long, broad basally with the anal lobe moderately extended distally; the marginal cell is closed with a rather long stalk. Both branches of the third vein end distinctly above the wing apex and the former arises abruptly from the latter, and at nearly right angles. Fourth posterior cell closed with a long stalk. Alula large, the ambient vein complete.

Abdomen: The abdomen is broad and robust, especially on the first four segments. The first tergite bears a few, stout bristles concealed by a dense, bushy tuft of long, coarse, concolorous pile. There are similar tufts of conspicuous pile in the posterior corner of the second segment and the lateral fourth of the third segment. The pile is normally erect but the posterior portion of it tends to become matted and subappressed. Sternites with long tufts of pile of a more scattered character. The middle portion of the second to fourth tergites and almost the whole of the succeeding tergites are nearly bare, pile being fine, quite short and scanty. Males with eight tergites but the eighth is almost completely concealed dorsally and appears as a small lip laterally. Male terminalia conspicuous and large but short. The superior forceps broad at the base, bluntly rounded apically; the gonopod is wide but shorter than the forceps, the eighth sternite is prominent and the hypandrium absent or concealed. The aedeagus forms a long, two-pronged, extensive process, extending far beyond the apex of the hypopygium.

Distribution: Nearctic: *Eccritosia amphinome* Walker (1849) [=?*tricolor* Walker (1850)]; *zamon* Townsend (1895).

Neotropical: *Eccritosia barbata* Fabricius (1787); *barbiellinii Curran* (1934); *plinthopyga* Wiedeman (1821).

Genus *Satanas* Jacobson

FIGURES 389, 704, 1422, 1431, 2335, 2345, 2470, 2471

Satanas Jacobson, Ann. Mus. Zool. Acad. Imp. Sci. St. Péters-bourg, vol. 13, p. xxxvi, 1908. Type of genus: *Proctacanthus gigas* Eversmann, 1855, by original designation.

Very large, conspicuous flies with an elongate abdomen which is strongly tapered especially in the female.

Quickly distinguished from *Proctacanthus* Macquart by the widely dilated second submarginal cell and the abruptly widened first posterior cell, together with the evanescent posterior veins and ambient vein. Female ovipositor with only dense, stubby setae. Length 35 to 45 mm.

Head, anterior aspect: The head is of medium length, the face is plane, quite short above and more conspicuous below, only because of the anteroventral recession of the eye, which is gradual and leaves the eye quite narrowed below. The occiput is moderately developed throughout and bears stout bristles extending to the bottom of the eye and to the vertex above. The proboscis is rather slender, elongate, somewhat attenuate on the discal fifth and has fine, apical pile. Palpus of one segment, comparatively short and small and with a trace of the basal segment. The antenna is attached at the upper third of the head and rather elongate; the third segment is as long as the combined length of the first two, bears a distinct, short microsegment and a thick, spine-tipped style, as long or longer than this segment.

Head, anterior aspect: The head not very wide but little wider than high. The face below the antenna is less than a fifth the head width, slightly divergent over the middle and more strongly below; the cheeks are prominent. The face is densely pubescent, without pile on the upper third and with a high medial triangle of quite stout, long, white bristles on the lower half of the face, mixed with short, slender bristles or bristly pile. There are 3 pairs of long, stout bristles along the sides of the subepistomal region. Front short, pollinose, sunken, with an ocular and subocular row of short bristles and bristly pile; its sides are slightly divergent and narrowed again at the vertex. Vertex moderately excavated; the ocellarium is low, with 3 pairs of bristles between the ocelli and 1 pair behind.

Thorax: The mesonotum is long, densely pale pollinose and densely covered with fine, subappressed setae. Acrostical elements are undifferentiated and dorsocentral elements present only at the anterior plane of the postalar region, where there are 3 or 4 pairs of long, stout, bristles. Humerus with short setae, the lateral bristles are stout, mostly quite long and consist of 1 or 2 small posthumeral, 2 notopleural, 1 supraalar, 1 postsupraalar, 1 to 2 suprapostalar, 3 or 4 postalar, and 3 pairs of scutellar bristles. The scutellum is densely pollinose, and thick only basally, and it has a trace of an impressed rim; the disc bears scattered, fine pile. Pronotum with 15 to 20 pairs of stout, spinous bristles; the lateral propleuron also with stout bristles. Pteropleuron and posthypopleuron each with 2 or 3 conspicuously stout bristles. Metanotal callosity with a dense patch of conspicuous, coarse pile; prosternum fused. Metasternum pilose laterally and below, and the postmetacoxal area membranous. Posterior basalare with bristles and stiff hairs; anterior basalare pollinose only; tegula with very fine hairs.

Legs: The legs are stout, the femora elongate, but scarcely or not at all swollen. The pile of the legs is dense, coarse, and plastered flatly upon the surface, especially on the hind pair. Bristles are quite stout, only moderately long, and not abundant. All the coxae laterally bear stout bristles. The hind femur bears 2 or 3 lateral bristles, a transverse, dorsal pair at the outer sixth, 2 ventrolateral, 2 lateral, and 5 medial bristles all at the apex, and in addition there are 5 ventrolateral and 3 or 4 ventromedial bristles. The hind tibia bears 2 dorsolateral near the middle and 2 dorsally nearly opposite, besides 3 short, basal, and 4 long, distal ventrolateral bristles. Middle femur with 2 stout, anterior bristles near the middle, 2 dorsomedially at the apex, a ventromedial row of 5, and a ventrolateral row of 2 bristles. The middle tibia usually has 2 or sometimes 3 stout, anterior, apical bristles and 4 or 5 spikelike, ventral bristles on the basal half. Anterior tibial bristles are similar, with both dorsal rows rather stout and long, containing 3 elements and rarely 4 elements, and with 2 posteroventral bristles. Claws stout, moderately sharp; the pulvilli and the bladelike empodium long.

Wings: The wings are comparatively short and broad, much shorter than the abdomen; the second marginal cell is widely dilated over most of its length, but arises gradually. The second posterior cell, however, is greatly widened and arises abruptly. At least the posterior veins are completely evanescent and the whole of the ambient vein likewise. Fourth posterior cell closed with a long stalk; the alula large. There is a strong similarity between the venation and that of *Nearatus* Ricardo and also of *Blepharotes* Westwood.

Abdomen: The abdomen is elongate, conspicuously tapered, especially in the female, but more gently in males, because of the large clublike terminalia. Pile is moderately abundant but flat appressed and setate and scarcely longer laterally, even on the basal segment. Sides of the first tergite with about 10 long and many shorter, stout bristles; middle of second tergite with a patch of 6 stout bristles and some smaller ones and its hind margin has 7 or 8 pairs. Third tergite with lateral and also postmarginal bristles and the fourth tergite only with postmarginal bristles. Second to fourth sternites with stout bristles. Males with eight tergites; the eighth is half as long as the seventh. Females with seven segments not incorporated in the ovipositor and the seventh is partially modified. The male terminalia are short but large and clublike. The superior forceps are especially stout, the gonopod much shorter, the hypandrium well developed, the proctiger large and oblique. Female ovipositor elongate and cylindrical and somewhat conical. Most of the length is contributed by the eighth segment, which is nearly three times the combined length of the last two segments. The tenth segment both above and below bears dense, short, stubby setae.

Distribution: Palaearctic: *Satanas agha* Engel (1934); *chan* Engel (1934); *fuscanipennis* Macquart (1855); *gigas* Eversmann (1855); *minor* Portschinsky (1887); *niveus* Macquart (1838); *shah* Rondani (1873); *testaceicornis* Macquart (1855).

Genus *Polysarca* Schiner

FIGURES 348, 706, 1424, 1433, 2229, 2230, 2354, 2468

Polysarca Schiner, Verh. Zool.-bot. Wien, vol. 16, p. 674, 1866. Type of genus: *Polysarca violacea* Schiner, 1866, by original designation.

Strange flies of robust form and deep, blue or purplish black coloration; wings dark brown with purplish reflections. They are of medium or large size and wing is unusually broad basally. Both branches of the third vein and the costa end well above the wing apex; the second submarginal cell is expanded both above and below the third vein and this cell is narrowed distally; branches of fourth and fifth veins evanescent; ambient vein absent. Length 25 to 30 mm.

Head, lateral aspect: Head longer than usual and the eyes strongly convex anteriorly. The face is quite prominent, especially extensive below at the epistoma; the extension begins a short distance beneath the antenna and continues gradually and regularly below; as a result of this forward extension the subepistoma is long and oblique; the face alone is only gently and shallowly convex; sides of face adjacent to the eye somewhat flattened. The greatly swollen occiput is thick throughout its length but especially through the middle; bristles begin at the middle of the head; the lower seven elements are lateral in position and quite slender, but near the posterior eye corners they become stout and directed upward and consist of about 15 slightly curved bristles; these are set in a doubled or trebled row behind the vertex. Ventral occipital pile fine, long and bushy. The proboscis is short but exceedingly broad and dorsoventrally flattened; its apex is short pilose, the base long pilose ventrally. Palpus large with numerous, long, fine, black hairs. The antenna is attached at the upper third of head and is as long as the head. First two segments short. The third segment is long oval, with a short style as long as the segment but with no microsegment present; the third segment bears a few minute setae above. First segment with a few short bristly hairs, the second with a few setae.

Head, anterior aspect: Face moderately wide, not quite two-sevenths of the head width below the antenna; it is distinctly divergent below. The upper part bears numerous, fine, long, black hairs directed forward; the whole lower half of the gibbosity has numerous, moderately long, stout, black bristles covering a triangular area in the middle and extending as a single row down the lateral border of the subepistoma. The front dorsally is wider than the face and bears numerous, long, fine, bristly hairs; the vertex is scarcely excavated, the ocellarium very small and low with numerous, erect hairs. The anterior eye facets are at most only slightly larger or only imperceptibly increased in size.

Thorax: The mesonotum moderately high, abrupt in front, only slightly convex from a lateral view but strongly convex from an anterior view; it bears dense, moderately long, fine pile over the entire surface and has stout, black bristles as follows: humerus with none, 3 short notopleural, 6 or 7 long supraalar, 6 or 7 postalar, the prescutellar area with a row of 3 on each side, the scutellar margin with 6 pairs of rather short bristles. Scutellum thick, convex with deep, impressed rim, the disc of scutellum with abundant, long fine pile. Mesopleuron with abundant, quite fine, long pile over the entire posterior dorsal half. Pteropleuron with additional pile; hypopleuron with pile and 3 long, stout, black bristles but metapleuron with a dorsal band of stiff pile only, long and fanlike. While these are perhaps equivalent to weak bristles they are distinctly less stout than others on the pleuron. Pronotum with numerous, long, stout, black bristles. Metanotal slopes without bristles but with a large, dense tuft of reddish brown pile. Metasternal slopes pilose; postmetacoxal area membranous. Posterior basalare with a dense patch of bristly hairs; tegula with setae.

Legs: The hind femur is rather stout, but not swollen; it bears dense, fine, subappressed, dark pile, longer ventrally, with 2 stout, rather long, dorsal subapical bristles and a row of 4 dorsolateral bristles ending near the middle, and to which 1 or 2 additional elements may be added immediately above; ventrolateral margin with 8 to 11 bristles which are rather long, oblique and stout, and to which extra ones may be added; ventromedial margin with 6 or 7 slightly longer, black bristles. Apex with stout, long, spinous, black bristles, which consist of: 2 lateral, 2 dorsal, 2 short medial and 4 ventral bristles. Middle femur with 7 or 8 anterior bristles placed especially along the middle and with 2 dorsosubapical and 1 anterior quite at the apex, and with 13 or 14 moderately long, oblique, anteroventral bristles, besides 5 or 6 posteroventral elements. Apex with circlet of about 10 short, stout bristles. Anterior femur quite stout with only 6 black, ventral bristles. The bristles of the tibia are short and consist of 7 dorsal, 8 anterodorsal, 9 posterior bristles; its apex with 2 anterior, 2 dorsal, 2 posterior and 4 or 5 ventral elements. Claws thick, stout, sharp, strongly curved from the base; the pulvilli four-fifths the claw length; the empodium long and stout at base.

Wings: The wings are exceptionally broad and dark brown with purple or blue reflections; the wings are especially broad at the base. Both branches of the third vein and the costa end well before the wing apex; base of second submarginal cell strongly expanded both above and below the third vein and this cell narrowed some distally; branches of fourth and fifth veins evanescent; ambient vein absent; alula quite large.

Abdomen: The abdomen is relatively short, stout, subcylindrical, the tergites shortened posteriorly. The sides of the first tergite bear dense, long, stiff pile among which pile are 2 or 3 quite weak bristles. Tergites with abundant, subappressed pile, rather long on the second tergite, becoming rapidly shorted on the remainder. Sides and postmargins of the tergites without special modified pile. Sternites with long, fine, bushy pile. Only seven tergites visible in the male. Male terminalia quite large, massive, conspicuous. They are wide but short and the superior forceps thick, very convex laterally, arched outwardly with a sharp, rounded bend which bends back toward the medial plane. In the wide cavity above, the proctiger lies low. The gonopod is almost as stout as the upper forceps, but only half as long. Hypandrium well developed. Female with seven tergites exclusive of the ovipositor; the eighth tergite is short, extremely wide ventrally; it forms approximately an equilateral triangle which is wide and rounded or convex dorsally. The ninth tergite is as long or slightly longer than the eighth, rather flattened across the top but compressed laterally. The tenth is a little shorter than the ninth, wide and obtuse, with a medial fissure dorsally and the ventral margins bearing numerous stout bristles, their length nearly as great as the height of the tenth tergite. Ventral margin of the ninth tergite with similar fringe of bristles, the basal ones a little longer. Dorsal surface of the tenth tergite is thickly beset with short stubby bristles.

Distribution: Palaearctic: *Polysarca gussakovskii* Paramonov (1937); *ungulata* Pallas (1818) [=*neptis* Loew (1873)]; *violacea* Schiner (1866).

Genus *Polysarcodes* Paramonov

Polysarcodes Paramonov, Trav. Mus. Zool. Kiev, vol. 18, no. 20, p. 74, 1937. Type of genus: *Polysarcodes moestus* Paramonov, 1937, by original designation.

The following is Paramonov's description in translation:

> In its habitus very similar to *Polysarca*. Venation as with *Polysarca*, except however, the veins that run to the hind border of the wing are entirely normally developed. The section of vein between r-m and the fork of the third vein is only 1.5 times smaller than in the anterior and posterior branches of the third vein (with *Polysarca* or *Satanas* it is two times). Metatarsus of all legs at least equal the sum of the 3 following segments of the tarsus. Proboscis almost as long as the diameter of the eye and very thick. The face in profile is almost straight on the upper half, on the lower half clearly protruding towards the front, however, it does not form any hump or gibbosity. The third antennal segment is long and cylindrical, taken without the style, it is two times as long as both basal segments; style made of of two segments. The first antennal segments almost equal. Lateral swelling of the mesonotum with a tuft of hair on the pteropleuron. Before the halteres are found quite numerous bristles; sides of thorax almost bare. On the underside of the hind femur there are 10–12 bristles (at least 6), but with *Polysarca* or *Satanas* only four.
>
> Genitalia very similar to *Polysarca neptis* yet longer. The abdomen of the female is elongate, the last segments form a long ovipositor, which is covered with erect or semierect, short bristles. Body black pilose.

Distribution: Palaearctic: *Polysarcodes moestus* Paramonov (1937).

Genus *Apotinocerus* Hull

FIGURES 395, 738, 1367, 1376, 2181, 2457, 2458, 2459, 2460

Apotinocerus Hull, Bull. Brooklyn Ent. Soc., vol. 51, p. 69, 1956. Type of genus: *Proctacanthus brevistylatus* Wulp, 1882, by original designation.

Rather small flies, the abdomen tapered in females, cylindroid in males, with rather long, stiff, flat appressed pile on legs and abdomen. The mesonotal pile is fine, sharp and setate. They are characterized by the long, slender, third antennal segment with the antennal style exceptionally short, stout and only as long as the second antennal segment. Not closely related to other genera, although the antenna resembles *Glaphyropyga* Schiner. Length 17 mm.

Head, lateral aspect: The face is scarcely visible on the upper fourth, but prominent and protuberant below on the remainder. The pile of the occiput is stiff, scanty above, becoming dense and tufted and bushy on the lower third of the occiput. Bristles begin at the lower third and consist of approximately 22 pairs of stout, moderately long bristles. The proboscis is short and rather slender. The palpus is of one segment, with a few, long, coarse, opaque hairs. The antenna is slender, rather elongate, the first segment is at least twice as long as the second; the third segment is unusually long and slender and excluding style, is as long as the first 2 segments together. This segment is a little thickened at the base, at most only slightly attenuate near the apex, and bears a short, stout style which is a third as long as the third segment; the style is slightly flattened, with a minute spine at apex. The first segment bears 10 to 12 coarse, appressed bristles.

Head, anterior aspect: The head is nearly circular in outline. The face below the antenna is a fourth the head width and divergent below. Face pubescent, without pile but with numerous, moderately stiff bristles confined to the middle of the facial protuberance and curved obliquely downward; at the epistomal margin there are 4 pairs of extremely stout, longer bristles directed downward, together with an additional 2 pairs of weaker bristles on the sides of the subepistoma. The front is scarcely wider than face, the vertex slightly convergent. Sides of front with some 15 rather stout bristles; vertex deeply excavated, ocellar protuberance low, with 3 or 4 pairs of short, divergent bristles.

Thorax: The thorax is pollinose, including the pleuron. The pile of the mesonotum is abundant, suberect, basally stout and composed of distally sharp setae, extending everywhere over the lateral mesonotum as far as the postalar region. Acrostical setae are present; the dorsocentral elements posteriorly become long and slender, with the last 2 pairs quite stout. Humerus setate, with 5 or 6 weak, short bristles. Remaining bristles of mesonotum quite long and very stout; notopleuron with 2, the postsupraalar with 1, the postalar with 2 bristles. Scutellar margin with a wide band of rather long, slender bristles. Whole scutellum thick and convex, without distinct margin. Posterior half of mesopleuron and upper sternopleuron with numerous, long, stiff hairs; pteropleuron with about 20 fine, long hairs. Hypopleuron with a wide, vertical band of long, stiff, white pile, and a patch spot of pubescence. Metapleuron with a middle, vertical band of long, slender, white bristles. Metanotal slopes bullose and micropubescent only. Postmetacoxal area membranous.

Legs: The femora are rather stout, especially the anterior four. Hind femur everywhere flat appressed pilose and with an apical circlet of 8 short, moderately stout bristles, 4 laterally and 4 medially. There is a dorsal pair of longer, subapical bristles. This femur has 6 dorsolateral, 6 ventrolateral, 1 ventrobasal, 5 ventromedial bristles, and 4 medial bristles, confined to the basal third. Hind tibia slender, appressed pilose, with 6 dorsal, 5 or 6 dorsolateral, and 4 dorsoventral, moderately long, stout, curved, oblique bristles, and a ventral fringe of 12 to 15 long, fine hairs; it also has medially an appressed brush of brassy setae arising at the middle and continued on to the tarsi. Middle femur with 3 anterior bristles, 3 posterior near the middle, 4 posteriorly at the apex, 7 posteroventrally on the basal half, and 5 anteroventral bristles through the middle. The middle tibia bears, besides the ventral fringe of fine, scattered hairs, 3 dorsal bristles, 2 anterodorsal, 4 longer posterior, 1 posteroventral and 1 ventral bristle; apical circlet of 8 bristles. Anterior femur somewhat stouter, with long, stiff, white pile below and some erect, white pile above, but no bristles. The anterior tibia bears a single bristle anteriorly near the base, 6 short, curved, oblique, stout bristles dorsally and 3 very long, stout bristles posteriorly, among which is mixed a fringe of equally long, stiff, white pile. Tarsi end with long pulvilli and sharp claws; the empodium long.

Wings: The wings are rather slender and hyaline; marginal cell closed with stalk, both the anterior and posterior branches of the third vein end well before the wing apex; the second submarginal cell is slightly narrowed at apex. The fourth posterior cell is closed with a long stalk, anal cell closed with a stalk; ambient vein complete. The marginal cell is distinctly widened; costa and costal cells not expanded.

Abdomen: The abdomen is strongly tapered in females; only slightly tapered near the base in males. Abdomen considerably longer than the wings, especially in female. Stout, white bristles are present as follows: 6 pairs on the first tergite, 5 to 8 pairs posteriorly and subapically, encircling the second and third tergites, and similarly with reduced numbers on the remaining tergites. Seven tergites are present in the male with the eighth barely visible linearly. The female has seven tergites, with the eighth quite elongate, conical and incorporated in ovipositor. Male terminalia conspicuous, elongate, not rotate. The superior forceps tightly apposed; gonopod short, the hypandrium deeply bilobed in the middle with posteroventrally a dense, long, apposed brush of stiff, bristly, white pile. Female terminalia as wide dorsally as laterally, the apical portion dorsally split and pointed; spines absent.

Distribution: Neotropical: *Apotinocerus brevistylatus* Wulp (1882).

Genus *Philonerax* Bromley

FIGURES 212, 689, 705, 750, 1439, 1448, 2225

Philonerax Bromley, Diptera Patagonia and South Chile... in the British Museum (Natural History), pt. 5, p. 270, 1932. Type of genus: *Asilus mucidus* Walker, 1837, by original designation.

Medium size asilids, belonging to the *Nerax*, new genus, complex, in which the anterior branch of the third vein ends before the wing tip. On the wing in the male the costa is distinctly expanded. Most readily distinguished from its allies in the females, in which the terminalia are quite short and broad and slightly depressed dorsoventrally. These flies are comparatively narrow, the mesonotum low, the female abdomen tapered. The males are more robust with large, wide terminalia. The face is strongly produced and gibbous, with an abrupt ledge just above the middle of the face, the bristles quite strong. Length 15 to 22 mm.

Head, lateral aspect: The face has a strong gibbosity on the lower half, abruptly developed with a conspicuous ledge dorsally; the upper half of the face is short. Eye of medium length, strongly convex anteriorly, nearly plane or at most very slightly convex posteriorly; the eye is considerably more narrow on the ventral half and it has a prominent, extensive, posteroventral recession which instead of being oblique tends to be in the same plane as the upper occiput. The occiput is moderately thick, more prominent below and bears dense, fine pile which becomes progressively longer until it is quite long ventrally; mixed with the pile and beginning just below the middle of the head are 8 pairs of short, stout, pale bristles. Near the upper corners of the occiput there are 8 pairs of longer, black bristles. Proboscis robust, subcylindrical with a very bluntly rounded apex which carries stiff, numerous, short hairs, both above and below. On the ventral surface near the midline is a row of long, stiff, oblique hairs extending to the outer third, and along the lateral ventral margin on the basal half are some additional, similar, long hairs; ventral fissure confined to the outer third; medial dorsal ridge of medium height and confined to the middle. Palpus rather slender and cylindrical, with numerous, long, stiff, white hairs, including the apex. The antenna is attached at a level corresponding to the middle of the eye. The antenna is rather short, the third segment exceptionally short; the first segment is a little longer than the second; the style is almost exactly as long as the combined length of all three segments. Microsegments absent. Pile of the first segment abundant, longer below and on the sides and coarse; second segment with 2 or 3 short, stiff hairs below near the apex.

Head, anterior aspect: The face below the antenna is about one-fifth the head width and wider below.

Subepistomal area large, concave, pubescent, oblique but well concealed by a dense band of lateral and anterior pile and bristles. The face is micropubescent with a dense tuft of long, bristly pile originating from the upper ledge of the facial gibbosity. The whole middle of the gibbosity is densely beset with long, coarse, bristly pile and stout, still longer bristles; across the upper portion below the ledge is a transverse row of 4 stout bristles rather strongly curved downward and followed by a still lower row of two. Across the lower margin of the face above the epistoma is a circular row consisting of 3 pairs of exceptionally stout bristles; along the sides of the subepistoma are 4 additional, lateral pairs, somewhat less stout; and in the middle is a pair of long, slender bristles. The additional stiff, long, white pile is unusually abundant and extends down the sides of the subepistoma with a conspicuous tuft at the lower eye corner. Front quite short, pubescent laterally; the sides slightly divergent, again convergent at the vertex. Laterally there is abundant, stiff, white pile, with a dense tuft in the lower corners of the front and a lateral row of 5 slender, black bristles. Vertex deeply excavated, with nearly vertical sides; the ocellarium of medium height carrying between the ocelli 2 pairs of slender, black bristles, 2 shorter, stiff, pale hairs, 2 others between the posterior ocelli; behind the ocelli a patch of 5 or 6 stiff, black and pale hairs and continued along the posteriorly extended ocellar ridge a vertical row of stiff pale hairs. Anterior eye facets strongly enlarged.

Thorax: The thorax everywhere pollinose, except that there is a large bare spot on the middle of the mesopleuron and on most of the sternopleuron. Pile of mesonotum rather abundant but exceptionally fine, though bristly. There is a medial band of irregular acrostical pile; the dorsocentrals are not clearly differentiated anteriorly but become a little longer over the middle of the mesonotum; opposite the postalar are 3 pairs of slender, moderately long bristles. Humerus with stiff, pale pile. Lateral mesonotum with slender bristles, consisting of 2 to 4 notopleural, 2 postsupra-alar, 1 or 2 postalar bristles. The scutellum with only a dense lateral tuft of upwardly curved, long, stiff, white pile leaving the middle of the margin and also middle and base of the disc bare. Scutellum quite thick and convex, without impressed rim. Propleuron with a dense tuft of long, fine pile; upper margin of the mesopleuron and the posterior half with considerable, long, fine pile; the upper sternopleuron with exceptionally abundant, long, fine pile; pteropleuron with a conspicuous, radiating tuft of fine pile and a large central patch of similar pile on both the posthypopleuron and the metapleuron, the latter have some very slender bristles. Sides of metanotum pubescent only; tegula with 7 or 8 short setae; posterior basalare with 7 or 8 fine, long hairs; lateral slopes of the metasternum with dense, fine pile; ventral metasternum chitinized and carrying a patch of short pile only; postmetacoxal area membranous.

Legs: All the femora are stout, the anterior and middle pair slightly thickened toward the base; the dorsal pile is fine, moderately long, pale and flat appressed, the lateral pile more or less appressed. The anterior femur in addition to the appressed pile has numerous, long, fine hairs dorsally. On the hind femur are stout, long bristles consisting of 2 dorsolateral on the outer fourth, the more distal bristle matched by a dorsomedial element; on the ventrolateral margin 5 conspicuous bristles; and on the basal half 5 or 6 ventral bristles. The hind tibia has 4 to 6 dorsal bristles, 3 dorsolateral, 3 longer posteroventral on the outer half; and both the ventral surface of the hind femur and tibia with a fine, moderately long brush of bristly pile; a brush of setae present only medially; the ventromedial margin of the hind tibia in the male has a dense row of short microsetae or microspinules, which seem to be absent in the female. Middle femur with 3 stout, anteroventral bristles; there are 3 posteroventral bristles in the middle, 3 at base, 2 posterior at basal third in the middle and 2 at apex. The middle tibia bears long, exceptionally fine pile anteriorly and ventrally, short appressed pile dorsally and 3 dorsal bristles, 2 posterior, 3 posteroventral, and 3 anteroventral. Anterior femur with dense, long, very fine pile and with 6 ventral bristles only; its tibia has 7 rather short dorsal elements, but with 3 exceptionally long, basally stout posteroventral bristles. The anterior basitarsus is as long as the next two segments; both the anterior and posterior bristles of these tarsi are quite stout and long. Tarsi end in long, slender, sharp claws, quite plane except at the apex where they are bent; long, well developed pulvilli; and slender empodium.

Wings: The wings are hyaline, villose; the marginal cell closed, the subcostal cell rather narrow, especially in the males. The costa in the males is slightly bent forward just beyond the middle, the marginal cell is distinctly widened, the ripples prominent and wide. In the female the marginal cell is also to some extent widened and is distinctly wider in the middle than the corresponding portion of the submarginal cell behind. The posterior branch of the third vein ends distinctly before the apex of the wing; the second submarginal cell has nearly parallel sides to the apex and no crossvein or appendiculate vein is present. The second posterior cell is not in the least narrowed; fourth posterior cell closed with a moderately long stalk, its posterior surface nearly plane, its outer surface slightly and its anterior surface quite strongly convex; the lower vein of the discal cell is pulled backward; second basal cell ends in two veins which are fused for a short distance beyond; anal cell closed; alula large, the ambient vein complete.

Abdomen: The abdomen is distinctly less wide than the mesonotum, except on the first tergite. The male terminalia rather large, conspicuous and wide, hence the male abdomen is only slightly tapered. In the males eight tergites are present, the sixth is three-fourths as long as the fifth, the seventh and eighth each extremely short dorsally but considerably longer laterally. Females with seven tergites, the eighth, while quite similar in character to the seventh in both pollen and pile, is very strongly pinched and laterally compressed. The ninth and tenth female tergites are wide laterally or broad, very short and form a short, rounded, clublike structure; the lateral margin of this club bears a dense fringe of downward curled, stiff pile. Male terminalia large, not rotate. The eighth sternite is long with a pair of long, posteriorly extended, clavate, knoblike processes which carry a tuft of posteriorly long, close-set, bristly pile curving inward medially. Pile of the abdomen coarse, flat appressed in both sexes, with a little more erect, somewhat longer pile on the sides of the second and third tergites and with a long, dense tuft of pile on the sides of the first tergite. Sides of first tergite protuberant, with 1 or 2 weak bristles or none; first sternite without pile, the remainder with only short, fine, scanty pile, more or less appressed.

Distribution: Neotropical: *Philonerax mucidus* Walker (1837).

Genus *Lochmorhynchus* Engel

FIGURES 206, 716, 732, 1420, 1429, 1437, 1446, 2203, 2217, 2363, 2494

Lochmorhynchus Engel, Konowia, vol. 8, p. 459, 1930. Type of genus: *Proctacanthus senectus* Wulp, 1882, by original designation.

Quite large flies belonging to the group in which both branches of the third vein end distinctly above the wing apex. Characterized by the moderately swollen middle and anterior femora and the strongly expanded costa in the male and the marginal and submarginal cells in both sexes. The third antennal segment is short with a long, straight style. The face is quite gibbose ventrally and abruptly produced just above the middle of the face. Epistomal bristles prominent. Female ovipositor long and cylindrical. Length 30 mm.

Head, lateral aspect: The face is strongly gibbose on the lower three-fifths, developed abruptly with an upper ledge, the upper face being produced only shortly. The eye is strongly convex anteriorly, gently convex behind with moderate, anteroventral recession which includes the lower third of the eye. The occiput is rather prominent throughout, widest submedially, sloping and rounded down the eye margin; pile of occiput dense, but rather fine on the ventral half, the pile is moderately long and set close to the eye margin. Bristles begin at the middle of the head and are stout and black, with 16 to 20 pairs present, all rather straight and comparatively blunt; there is some fine, long pile dorsally on the occiput. Proboscis stout, directed chiefly downward, of moderate length, a little attenuate above and below on the apical fourth; the apex is bluntly rounded with only a few minute hairs, the ventral and ventrolateral surface is for at least two-thirds of the length densely beset with long pile. Palpus elongate, slender, with numerous, bristly hairs and some stiff, apical bristles. The antenna is attached a little above the middle of the head in profile and comparatively short. The first segment is more than twice as long as the short second segment, the third segment is quite short but broad and rather strongly compressed laterally, more or less bluntly pyriform, with a very short, but distinct microsegment and a stout, straight spine or a bristle-tipped style, a little stouter basally and a little longer than the combined length of the three segments. Ventral and lateral pile of the first segment composed of numerous, only moderately long, white bristles, or bristly pile, somewhat shorter but abundant pile dorsally; second segment with an apical ring of setae, except medially.

Head, anterior aspect: The face below the antenna is a little more than a fourth the head width and divergent across the epistoma. Subepistomal area moderately large, concave and oblique. The face is minutely micropubescent, the middle of the gibbosity dorsally bears a dense tuft of moderately long, stiff pile; this pile is continued more scantily down the sides of the epistomal margins. The whole anterior and lateral epistomal margins bear a circlet of 7 pairs of long, very stout, black bristles, the lower 3 elements shorter and weaker. The front is short, bare medially, with a dense tuft or band of long, bristly pile along the eye margin; vertex deeply excavated with nearly vertical sides, more deeply excavated behind. The ocellarium is rather low, with 2 pairs of slender, black bristles across the middle and 2 pairs between the posterior ocelli, 3 pairs immediately behind and 4 or 5 pairs set further down along the medial ridge. Anterior eye facets moderately enlarged.

Thorax: The thorax is pollinose, abrupt both anteriorly and posteriorly. The pile of the mesonotum is dense, but quite fine, rather short, bristly and suberect, a little longer anteriorly and still longer posteriorly. Acrostical bristles not differentiated; dorsocentral bristles are present only opposite the postalar, where there is a row of 8 or 9 elements followed by a medial, more posterior row of 4 or 5 elements, all rather long and stout. Humerus with fine, short, bristly pile. In the type of genus the lateral bristles are stout and long, and consist of 2 notopleural, 1 postsupraalar, 3 postalar, and 3 pairs of slender scutellar bristles, with 3 or 4 additional, equally stout bristles on each side of the disc. Scutellum thick and convex, without trace of impressed rim. Propleuron densely long, fine, pilose with only bristles on the pronotum where there are 4 or 5 pairs of weak bristles. Anterior and upper mesopleuron, the whole upper posterior half of the sternopleuron with mostly long pile. Pteropleuron with a dense clump of long, fine pile; posthypopleuron likewise; metapleuron with a wide, vertical band of long, slender bristles and bristly pile; lateral slopes of metanotum micropubescent only; lateral and ventral metasternum long, fine pilose; postmetacoxal area membranous; tegula with setae, anterior basalare with a tuft of 12 or more long, fine hairs. Prosternum dissociated.

Legs: The femora are stout, the middle and anterior pairs distinctly thickened towards the base. Dorsal, lateral and anterior pile abundant, fine, rather long and appressed; ventrolateral surface, ventral and ventromedial surfaces of the hind femur with moderately abundant, quite fine, nearly erect pile; ventral surface of the hind tibia with only fine, short, scattered pile; a brush of setae entirely confined to the medial surface. In the type of genus the hind femur has 10 ventrolateral bristles (in the middle of the femur this row swings outward), 5 dorsolateral (the distal subapical element has a dorsal and also dorsomedial counterpart), and the apex with a medial bristle. The hind tibia has 6 stout, dorsomedial bristles, 4 dorsolateral, and 2 ventrolateral on the outer half. Middle femur with some fine, long pile dorsally on the basal half, 3 short bristles in the middle posteriorly, and 3 at base anteroventrally, with another at the middle. The middle tibia bears 2 anterodorsal and 2 posterodorsal, 2 anteroventral, all confined to the distal half, and also 4 posteroventral bristles. Anterior femur with a posterior dorsal fringe of long, fine pile; anterior tibia with 1 or 2 short, weak, basal anterodorsal, 3 or 4 short, stout posterodorsal at the middle and beyond, and 3 long, stout, distal posteroventral bristles. All tarsi end in exceptionally slender, long, slightly blunt claws; spatulate pulvilli about two-thirds as long as the claw; and a quite short, basally stout empodium from a fourth to half the length of the claw.

Wings: The wings are broad, the marginal cell is closed with a moderately long stalk; the costa and the first vein are greatly thickened and, with the marginal cell, are expanded and strongly rippled in the male; in the female there is no thickening and no expansion. Subcostal cell is narrow in both sexes; discal cell quite narrow, the rectangular, anterior crossvein enters the discal cell at the outer third. The fourth posterior cell is convex anteriorly; second basal cell ends in two veins; anal cell closed with a short stalk. Both branches of the third vein end distinctly above the wing apex; first posterior cell quite narrow in the middle, greatly widened distally; lower end vein of the discal cell pulled back toward the base; fourth posterior cell closed with a long stalk; alula large, ambient vein complete.

Abdomen: The abdomen is not as wide as the mesonotum; it is elongate, rather strongly tapered, and in the female longer than the wing. Pile of abdomen very abundant, exceptionally fine and long on the sides of the first three or four tergites in the male, much shorter and more scanty in the female. The male in some species may have dorsal mats of hair, posteriorly appressed and curving outward along the posterior margin. Female with only short, appressed, setate pile. Lateral corner of the first tergite unusually strongly protuberant and convex, with 4 to 6 bristles, either stout or slender, and other, long hairs. Bristles absent on the remaining tergites in the male; females with weak, posterolateral marginal bristles; these tend to be confined to the first three tergites. Sternites with long, fine pile in the male; scanty, appressed, short pile in the female; first sternite apilose. Male with eight tergites, but the eight short and liplike dorsally, slightly longer laterally; seventh segment greatly reduced medially and only a fourth as long as its lateral length. Posteriorly this segment has a wide crescentic arch of membrane which may form a deep pocket or crease; it is probably related to the upturned position of the epandrium. Female with seven tergites, the eighth tergite forming a subcylindrical ovipositor as long as the sixth and seventh tergites together and strongly convex dorsally, slightly compressed laterally below. The ninth and tenth tergites are short.

Male terminalia not rotate; conspicuous and elongate. The superior forceps form the largest elements; they are elongate, and tend to be narrowed near the apex, with 1 or 2 dorsomedial, notched and sometimes a club-shaped, apical process. The moderately long proctiger thrust obliquely upward has a spearlike process arising beneath it. The gonopod is large but not quite half as long as the superior forceps. The eighth sternite forms a very long, shovel-like structure, which extends fully as far as the gonopod, encloses the latter basally and diverges from it only near the apex; this eighth sternite is quite convex ventrally and on the outer half bears a dense, subappressed brush of long, coarse, matted, bristly pile. Superficially these terminalia resemble *Nerax*, new genus. The hypandrium is short and completely concealed by the eight sternite. The female terminalia consist of the very long, nearly cylindrical eighth segment and the much shorter, subcylindrical ninth segment; the short tenth segment is somewhat more compressed laterally especially on the posteriorly produced ventral component where the ends are tightly apposed. The shining, not pollinose, posterior half of the seventh segment might be considered to contribute to the ovipositor.

Distribution: Neotropical: *Lochmorhynchus griseus* Guérin (1830); *longiterebratus* Macquart (1849); *senectus* Wulp (1882).

Lonchodogonus, new genus

FIGURES 209, 751, 1435, 1444, 2256, 2281, 2373, 2382

Type of genus: *Lonchodogonus cribratus*, new species.

Large flies with a very prominent, abruptly developed gibbosity on the lowest three-fifths of the face. The head is nearly circular from the anterior aspect. Both branches of the third vein end above the wing apex. The male terminalia have the eighth sternite produced as a basket-like scoop, accentuated by numerous, arching, curved bristles, which form the basket. Female terminalia compressed on the eighth segment, conspicuously expanded on the ninth and tenth segments. Length 25 mm.

Head, lateral aspect: The face has a long, rounded gibbosity on the ventral three-fifths; the upper part barely extends beyond the eyes. The eyes are narrowed and angular ventrally. The occiput is prominent and especially thick and well developed at the bottom of the head, due largely to the recession of the eye; it bears abundant, fine, long hairs on the lower half; bristles begin at the middle and consist of about 20 stout, short, brownish yellow bristles. The proboscis is robust, extends beyond the face and obliquely downward; it bears a few fine hairs at the apex and numerous, quite long hairs ventrally on the whole basal half; medial dorsal ridge absent. Palpus moderately long and slender, with numerous, long, fine, bristly hairs. The antenna is attached below the upper third of the head; exclusive of the style, it is much shorter than the head. The first segment is 5 or 6 times as long as the very short second segment. The third segment is short oval, quite small, narrow, and a little attenuate apically; it bears a short, distinct microsegment and a slender style, which is approximately as long as the first two antennal segments. First and second segments with unusually narrow, long, setae-like, bristly hairs dorsally, laterally, and below; these tend to form a single circle on the second segment.

Head, anterior aspect: The head is nearly circular. The face beneath the antenna is about a fourth the head width and only slightly widened below. The flat portion of the face below the antenna is without pile. There are very numerous bristles or bristly hairs over the whole gibbosity, arising even from the nearly horizontal upper ledge; these bristles on the upper, convex margin of the protuberance are shorter; those on the lower half are much longer but also slender; similar elements extend down the sides of the subepistoma. The front laterally bears unusually numerous, long, slender, curled bristles with at least 20 on each side. Vertex deeply excavated, with slanting sides; the ocellarium is small and low and bears 6 long, slender, black hairs on each side.

Thorax: The mesonotum has an irregular, acrostical band of stiff, short, suberect, blackish setae and similar, slightly longer, stiff, black pile in the dorsocentral area. Humerus with black and yellow pile without bristles. The lateral bristles are long and stout and consist of 3 notopleural, 1 supraalar, and 2 postalar brownish yellow bristles. On the outer third of the scutellum is a band of long, somewhat curved, upwardly turned, moderately stout, brownish yellow bristles; the actual marginal members are more slender and merge into fine, long, slender hairs laterally and toward the base; in addition there are at least 6 pairs of rather stout, submarginal bristles. On the mesonotum are 4 long, stout, brownish yellow, prescutellar, dorsocentral bristles mixed with 1 or 2 finer, black bristles; the postalar also bears some long, slender, black bristles. Pronotum with 5 pairs of bristles and metapleuron with a wide, vertical band of weak, long, brownish yellow bristles. Upper sternopleuron, lower postmesopleuron, pteropleuron and hypopleuron, and the sides of the metasternum all with abundant, long, brownish yellow pile; metanotal slopes bullose, but without bristles or pile. Postmetacoxal area membranous.

Legs: The hind femur is stout, the middle and anterior femora a little more thickened, especially towards the base. All pile and bristles are pale brownish yellow on the femora; the pile is dense and more or less appressed, rather long and fine. The ventral surfaces bear a few, fine, long, scattered, erect or nearly erect hairs; the dorsomedial or posterior margins of all of them bear long, extremely fine hairs disposed in a sparse fringe, which is especially long on the anterior femora. The stout bristles of the hind femur consist of 3 lateral, 6 ventrolateral, 3 ventral at the basal third, and 4 ventromedial bristles, 3 dorsal subapical and 1 medial bristle at the apex. The hind tibia has 4 dorsal bristles submedially, 1 quite at the base and the last dorsal element just beyond the middle, 1 dorsolateral, 3 ventrolateral bristles; apex with 2 ventral, 2 lateral, 1 dorsal bristle. The middle femur has a very conspicuous, anterior and posterior row, 4 anteriorly and 5 posteriorly; also 1 exceptionally stout, posterior bristle near the apex and 6 ventral elements, the one at the base doubled. Middle tibia with a divergent, double ventral row of 3 bristles beginning just before the middle, and with 2 dorsal bristles on the apical third; this tibia also has very long, fine hairs dorsally and anteriorly and 4 very stout posterior bristles. The anterior femur has 6 long, strong bristles ventrally, all on the basal half. Anterior tibia with a double, dorsal row of shorter bristles, 5 anterior and 3 posterior, besides a more posterior row of irregular, quite long, very stout bristles, 5 in number. The claws are long, stout, bluntly pointed at apex; pulvilli two-thirds as long as claws; empodium stout, bladelike and four-fifths as long as claw.

Wings: The wings are slender but with the axillary lobe distinctly expanded and an incisionary notch present at the end of the anal vein. The subcostal cell is narrowed at the expense of the marginal cell; marginal cell closed with a rather long stalk. The second submarginal cell has nearly parallel sides and originates far beyond the end of the costa and both branches of the third vein end above the wing apex; the first branch of the fourth vein ends far to the rear of the wing apex and, since the second posterior cell is greatly widened just beyond its base and mostly anteriorly, the first posterior cell is in consequence greatly occluded in the middle; lower end vein of discal cell drawn backward; fourth posterior cell closed with a long stalk; its anterior margin strongly convex, occluding the discal cell. Anal cell closed and stalked; second basal cell ends in two veins, fused briefly beyond; alula large; ambient vein complete.

Abdomen: the abdomen is cylindroid, tapered; the sides of first tergite bear a tuft of abundant, stiff, brownish yellow pile and a vertical row of 3 long, stiff, stout, reddish brown bristles; remainder of segment without special pile or bristles. All the abdominal pile is nearly flat appressed and brownish white. Males with prominent terminalia, not rotate, and with the elongate, superior forceps and the gonopod elevated. The superior forceps with terminal, winglike process as in some species of *Nerax*, new genus, and the two parts meet distally in the midplane. Proctiger moderately protuberant. Eighth sternite as in *Lochmorhynchus* Engel quite long and protuberant, each lateral terminal part with a basketlike fringe of close-set, long bristles. Hypandrium, if present, is concealed. Female terminalia quite distinct from *Lochmorhynchus.* Eighth segment greatly compressed laterally; ninth cylindrical and bulbous, or even depressed and expanding apically. The tenth segment is narrowed to the same extent that the ninth segment is extended, so that both segments in dorsal aspect are egg-shaped.

Distribution: Country unknown: *Lonchodogonus cribratus*, new species. There was no locality label on these specimens. The nearest related genus is from Chile.

Lonchodogonus cribratus, new species

Large, black to brownish black flies with reddish brown pollen.

Head: The head is brownish black with the bristles and pile brownish white in color, except for a few, black bristles or hairs on the dorsal surface of the first 2 antennal segments and on the ventral surface of the second segment also. The ocellar tubercle has 6 long, slender, black hairs. Bristles of occiput stout, short and brownish yellow.

Thorax: Both the pleuron and mesonotum are reddish sepia pollinose; the latter is subvittate.

Legs: The femora are brownish black but the tibiae and tarsi are reddish brown; all tarsi bear very long, brownish yellow, stout bristles.

Abdomen: The abdomen is tapered and more or less cylindroid. Sides of first tergite with abundant, stiff, brownish yellow pile and a vertical row of 3 long, stout, reddish brown bristles; other segments without specialized pile or bristles.

Type. Male; allotype female. Believed to be from the Cordilleran region of southern South America, in which are all relatives of these flies. In the Zoologische Staatssammlung, Munich.

Genus *Proctacanthella* Bromley

Figures 377, 378, 720, 1416, 1425, 2303, 2314, 2473, 2474

Proctacanthella Bromley, Ann. Ent. Soc. America, vol. 27, p. 96, 1934. Type of genus: *Asilus cacopilogus* Hine, 1909, by original designation.

Small or medium slender flies with elongate, tapered abdomen. They differ from *Asilus Linné* by having the metanotal callosity bare. They resemble *Proctacanthus* Macquart by having a circlet of spines at the apex of the ovipositor, but differ in the venation; the posterior branch of the third vein terminates beyond the apex of the wing as it does in *Asilus*. Length 11 to 25 mm.

Head, lateral aspect: The head is short, the occiput only moderately developed, but very prominent below, because of a strong posteroventral recession of the eye on its lower half. The face is short and nearly plane, or with a very slight elevation in the middle. It is chiefly conspicuous because of the anterior recession of the eye. The occiput has dense, coarse, generally opaque white pile on the ventral half and pale bristles beginning at the middle of the head; the upper elements are quite stout. The proboscis extends well beyond the face; it is comparatively narrow with a low, dorsal keel over the middle portion, the apex is more narrowed, bluntly rounded and with fine pile; the sides and base below bear abundant, long, coarse pile extending to or beyond the middle. Palpus slender and cylindrical and pilose but with bristles limited to the apex. The antenna is attached a little above the middle of the head and of only moderate length. They are, with style included, approximately as long as the head. First segment nearly twice as long as the second; third segment long oval, with a distinct microsegment and a short, thick bristle-tipped style, approximately as long as the third segment.

Head, anterior aspect: The head is about 1½ times as wide as high, exclusive of cheeks; the cheeks are moderately high and the face densely pubescent, without pile on the upper fourth or third but with more or less appressed, abundant, coarse, moderately long, bristly pile over the middle third of the face which in some species is matted. On the lower third of the face are numerous long, basally stout, whitish bristles which extend down the upper half of the lateral margins of the oblique subepistoma. Face below antenna about a fourth the head width, with nearly parallel sides on the upper half and slightly divergent below; the front is short, pollinose, sunken with transverse groove; it has a subocular row of bristly pile and close beside it an additional patch or triangular area of bristly pile. Vertex slightly narrowed, slightly excavated, thickly pale pollinose with slanting sides and low ocellarium which bears 2 to 6 pairs of bristles between the ocelli and others behind.

Thorax: The mesonotum is pollinose and pale with rather abundant but unusually stubby, sharp, setate pile. The pile is undifferentiated anteriorly but there are 5 pairs or fewer of conspicuous, postdorsocentral bristles and sometimes others included between these pairs. The lateral complement of stout bristles consists of 2 notopleural, no supraalar, 1 postsupraalar, 1 suprapostalar, 2 postalar, and 3 or 4 pairs of scutellar marginal bristles. There are also stout, submarginal bristles on the posterior half of the very convex, not rimmed scutellum. Pronotum with stout bristles, sometimes as few as 2 pairs. Upper border of the mesopleuron, its posterior half, the upper fourth of the sternopleuron and a vertical band on the posthypopleuron all with coarse, rather long pile. Metapleuron with a vertical band of slender bristles and long pile. Metanotal callosity micropubescent only. Whole pleuron densely pale pollinose or pubescent. Metasternum pilose; postmetacoxal area membranous; prosternum dissociated.

Legs: The femora are stout, the first four a little swollen dorsally, but plane below; the pile is rather abundant on the dorsal or lateral surfaces, coarse and comparatively long and flat appressed. There are fringes of longer, fine, stiff hairs on the lateral, dorsomedial, and the lower half of the medial surface of the hind femur and the ventral surface of hind tibia; also on the anteroventral and ventral surfaces of the middle femur and especially on the ventral surface of the anterior femur and its tibia. Bristles are comparatively stout and numerous. The hind femur has 5 dorsolateral, 6 or 7 ventrolateral, and the apex and subapex with dorsomedial bristles. Hind tibia with 4 dorsolateral, 4 dorsomedial, and 3 ventrolateral bristles, the apex with 5 bristles. Coxa laterally with 2 or 3 bristles and bristly hairs. Post-trochanters with 2 bristles. Middle femora with 2 bristles posteriorly on the basal half, 2 or 3 anteriorly on the basal half; and with 3 or 4 anteroventral bristles besides 4 or 5 ventral bristles on the basal half. Anterior femur either without bristles or in some species with 6 ventral bristles on the basal half and some posteroventral bristly hairs. Tibia with the bristles similar to the hind pair, but with 2 or 3 much longer, posteroventral bristles. Claws slender but only moderately sharp; the pulvilli are long but only four-fifths as long as the claw, empodium bladelike.

Wings: The wings are hyaline, the marginal cell broadened in the male and less broadened in the female at the expense of the subcostal cell. The anterior branch of the third vein ends shortly before the wing apex and the posterior branch distinctly but shortly behind the wing apex. The anterior branch arises rather abruptly. Fourth posterior cell closed and stalked, the anal cell likewise. Alula large, the ambient vein complete.

Abdomen: The abdomen is slender and tapered; only the first segment is as wide as the mesonotum; the pile is coarse, suberect, comparatively long, but scanty and distinctly longer on the sides of the first three tergites, but likewise sparse. First tergite with 3 or 4 stout bristles, the posterior margins of the second and third and sometimes the fourth segments with a subapical, sublateral patch of weak bristles. Males with eight tergites, the eighth quite narrow and in the middle sometimes reduced to membrane. Females with seven tergites, excluding the ovipositor. Male terminalia rather short, the superior forceps divergent, the gonopod small. The hypandrium is boatlike and in some species rather elongate. The female terminalia consist of a long, slender, cylindical cone, composed chiefly of the eighth segment; the ninth and tenth segments are both short, the tenth has on each side 5 or 6 spikelike spines and the sternite below bears sharp, stubby setae.

Distribution: Nearctic: *Proctacanthella cacopilogus* Hine (1909); *jamesi* Pritchard (1935); *leucopogon* Williston (1893); *robusta* Bromley (1951); *wilcoxi* Bromley (1935).

Genus *Senoproposis* Macquart

Figures 334, 700–703, 1479, 1488, 1492, 1501, 2312, 2356, 2456

Senoprosopis Macquart, Diptères exotiques, vol. 1, pt. 2, p. 130, 1838. Type of genus: *Senoprosopis diardii* Macquart, 1838, by monotypy.

Stenoprosopis Kertész, Catalogus dipterorum . . ., vol. 4, 1909. Emendation.

Rather small, quite slender flies. The abdomen is as long or slightly longer than the wings. The hind femur and tibia are lengthened and all the legs are somewhat longer than usual. These flies are pollinose, dark colored and their legs are usually with yellow markings. They are characterized by the very slender face, the not impressed scutellum, the pilose, lateral slopes of the metanotum, the short third antennal segment and the long, slender style. The face is scarcely produced beyond the eye margin; it follows the curvature of the eye and is, therefore, convex. Length 12 to 16 mm.

Head, lateral aspect: The face is quite short, very slightly longer toward the epistoma; the whole face is rather strongly convex, especially on the lower half; in general it tends to follow the eye margin. Eye strongly oval anteriorly; plane through the middle posteriorly, strongly recessive anteroventrally and also plane on the lower fifth. The occiput is short, uniformly developed from vertex to the cheeks; the pile is fine but only moderately long and rather abundant on the lower third, scanty in the middle and dorsally. There are a few quite slender bristles which begin on the upper third and consist of 8 or 9 pairs; the 2 or 3 most dorsal elements on each side are strongly proclinate. The proboscis is slender, bluntly pointed at the apex and very gently constricted in the middle especially on the lower aspect; it is without dorsal ridge, except for a basal trace and bears a few, fine, stiff hairs ventrally; it extends very little beyond the face and is directed obliquely forward. Palpus quite slender, elongate with bristly hairs dorsally and laterally and a single long, bristly hair at the apex. The antenna is attached at the upper third of the head and is comparatively short; the first segment is twice as long as the second. The third segment is only as long as the first and slightly widened at or beyond the middle; it is attenuate apically but abruptly, without microsegment and carries a long, slender, bristle-tipped style, at least 1½ times as long as the combined length of all of the segments.

Head, anterior aspect: The face at the antenna is a seventh the head width and divergent below. The face is densely appressed pubescent and down the middle bears 3 or 4 fine hairs and in the middle 3 or 4 long, slender, bristly hairs not quite as long as the first 3 antennal segments. Ventrally in the middle is a triangular patch of 5 or 6 long, pale, slightly stouter bristles, and similar bristly hairs down the sides of the subepistoma; the subepistoma is comparatively small, narrow, concave, pubescent and oblique. The first segment of the antenna has 2 or 3 bristly setae ventrally and dorsally; second segment with a like number ventrally and 2 dorsally, all of which are more stout. The front is short and rather wide with 6 slender, black, bristly hairs laterally. Vertex rather deeply excavated with steeply sloping sides; the ocellarium is set anteriorly or forward and the whole of it rises above the eye; it is moderately large and high with a pair of stout, long, divergent bristles arising behind the ocelli, together with another pair of considerably shorter, finer bristles adjacent and a similar pair between the ocelli. Anterior eye facets moderately enlarged.

Thorax: The thorax is pollinose; the pile of the mesonotum is fine, rather long and bristly but comparatively limited in quantity. There is a row of minute, acrostical pile followed by a wide apilose band and laterally opposite the humerus a patch of numerous, bristly hairs. There are 2 long, slender, dorsocentral bristly hairs before the suture, 1 at the suture, and 3 behind. Lateral bristles are long but comparatively slender and consist of 1 posthumeral, 1 notopleural, and 1 supraalar, 2 postalar, and 3 pairs of slender scutellar bristles; these bristles are either black or white or mixed in coloration. Scutellum convex, with distinctly impressed rim, densely pubescent with a few fine, slender hairs on the disc. Pleuron with rather abundant, long, fine pile and no bristles. Humerus is similar, with abundant, long, fine pile. Upper middle sternopleuron, the pteropleuron, and the posterior half of the mesopleuron with exceptionally long and unusually delicate pile. Posthypopleuron with a patch of 12 or 15 hairs and the metapleuron with a wide band of very long pile among which are some bristly hairs. Lateral slopes of the metanotum creased medially, convex and with numerous, long, fine hairs. The posterior basalare bears a few, fine hairs ventrally; tegula pubescent only; squama with a multiple fringe.

Legs: The femora and tibiae are rather elongate, especially the hind pair with the pile abundant, rather fine, setate and appressed and more scanty ventrally. The ventral surfaces of all the femora bear some exceptionally long, slender bristles but only 2 or 3 are present on the basal half of the hind femur, 2 basally on the anterior femur and a row of 9 on the middle femur. Of the tibia both the anterior and middle pairs have some quite long, attenuate bristles. On the hind femur 2 long and 1 short bristle, the long elements occupying the basal third; this tibia has 3 fine, quite short, dorsomedial bristles extending to the middle and a like number of dorsolateral elements extending to the outer third, with 2 short, ventrolateral bristles on the outer half. Middle femur with 9 rather long, slender, ventral bristles; its tibia has 3 or 4 quite short, fine, dorsal bristles, 2 exceptionally long anteroventral bristles; 2 posteroventral bristles and 1 posterior bristle at the outer fourth. Anterior femur with 2 or 3 fine, long, bristly hairs basally; its tibia has 2 very long, posteroventral bristles near the middle and a comparatively dense, moderately long fringe of fine, somewhat curled pile posteriorly. Anteriorly a brush of setae extends to the middle. Posterior basitarsus nearly or quite as long as the remaining segments combined.

Wings: The ambient vein complete; alula only a little wider than the costal cell.

Abdomen: The abdomen is slender with nearly parallel sides and considerably less wide than the mesonotum; however, the unusually protuberant, convex, not emarginate first tergite almost approaches the width of the mesonotum. Pile of the abdomen fine, setate and appressed, with stout, pale bristles laterally along the posterior margin; the first and second segments bear considerable, long, fine pile laterally. First tergite with 7 pairs of slender bristles. Eight tergites present in the male, the eighth at least half as long as the seventh. Male terminalia moderately large and constructed somewhat like *Astochia* Becker, prominent and not rotate. The superior forceps simple, with either acute or obtuse apex, and sometimes swollen and humped dorsally. The proctiger is prominent and directed either vertically upward or even backward. Gonopod of moderate size; hypandrium short. The upper and lower forceps tend toward divergence and the aedeagus is curved upward and expanded below.

Distribution Neotropical: *Senoprosopis brasiliensis* Schiner (1867); *impendens* Wiedemann (1828); *tenuis* Wiedemann (1828); *varipes* Schiner (1867).

Ethiopian: *Senoprosopis coxalis* Becker (1923).

Oriental: *Senoprosopis diardii* Macquart (1838).

Australian: *Senoprosopis lascus* Walker (1849); *meridionalis* Hutton (1901).

Although I have not seen the type of genus, *Senoprosopis diardii*, which was said to be from India, I have examined the types of *Senoprosopis brasiliensis*, *impendens*, *tenuis*, and *varipes*, all through the courtesy of officials at the Vienna Museum. Of these species, *Senoprosopis brasiliensis* approaches nearest to the figures of Macquart and like Macquart's species it has 2 or 3 strong, isolated, long bristles on the upper face as well as the narrowed face. The only points in doubt have to do with the presence or absence of hairs on the metanotal slopes and the presence or absence of an impressed rim on the scutellum in the type of *diardii;* since all other Asilinae known to me from the Old World do have these last peculiarities present, I have little doubt that the South American species listed above are true members of *Senoprosopis*. *Stenasilus* Carrera (1960), may be a synonym.

Genus *Glaphyropyga* Schiner

FIGURES 324, 731, 1401, 1410, 2186, 2187, 2462, 2481

Glaphyropyga Schiner, Verh. zool.-bot. Ges. Wien, vol. 16, p. 674, 1866. Type of genus: *Asilus himantocera* Wiedemann, 1828, by original designation.

Tapinostylus Enderlein, Zool. Anzeiger, vol. 44, p. 256, 1914. Type of genus: *Tapinostylus setosifemur* Enderlein, 1914, by original designation.

Readily recognized by the extremely narrow face which is nearly plane and the long, slender antenna with the third segment especially elongate and the style virtually absent. The second submarginal cell of the wing is long and slender, the middle and hind femora and their tibiae are distinctly lengthened and the superior forceps of the male generally is long and slender. Slender, small to medium size flies. Length 12 to 20 mm.

Head, lateral aspect: The head is of moderate length, the face plane with the eye or even sunken below it on its upper half. On the lower half of the face is a low elevation with a slightly beaked appearance; the whole face is nearly plane in profile. The occiput is extremely short, barely visible in profile with a low, slight swelling dorsally behind the vertex. The pile of the occiput is scanty and fine ventrally with fine, slender, downturned bristles and bristly hairs in the middle and 3 to 6 pairs of slender bristles behind the upper eye corner which may be of contrasting color. Proboscis slender, longer than the face, with the basal third a little swollen and almost no dorsal keel. The apex is bluntly rounded with minute hairs above and somewhat longer hairs below. Palpus small, slender, cylindrical, with 1 or 2 weak, apical bristles and some bristly hairs. The antenna is attached at the upper fifth of the head and is unusually elongate. The first two segments are comparatively short; the first segment is nearly twice as long as the second, and has several, appressed bristles at the apex extending around to the dorsal surface. The third segment is very long and slender, as wide or sometimes less wide than the second segment and more than twice as long as the first 2 segments combined. At its apex it bears a short microsegment followed by a slightly longer, thick style as wide as the microsegment, which carries a minute, apical bristle.

Head, anterior aspect: The head is as wide as the thorax and only a little wider than high; cheeks of moderate extent. Face below antenna quite narrow, less than a tenth the head width and moderately divergent below. The surface, including the cheeks and the large oblique subepistoma, is pubescent. Pile is absent on the upper half; on the low ventral elevation are a very few, fine, short hairs and near the middle of each half a vertical row of 3 long, slender bristles. Along the epistomal margin is a transverse row of 2 to 4 pairs and an additional pair placed just above the epistomal group. Front small, pollinose with an ocular row of 2 or 3 fine hairs. The vertex is scarcely excavated anteriorly but rather deeply behind. The ocellarium is conspicuous and large with vertical sides and bears a single pair of slender hairs behind the ocelli.

Thorax: The mesonotum is comparatively high, convexly arched, more steeply arched anteriorly and posteriorly; it is pollinose and bears a very few, fine, scattered, suberect setae with a differentiated, double acrostical row and with short dorsocentral elements differentiated anteriorly, becoming progressively longer towards the scutellum. Humerus pilose ventrally and the lateral complement of long, comparatively stout bristles contains 2 notopleural, sometimes 1 posthumeral, 1 postsupraalar, 1 suprapostalar, 2 postalar, and 1 pair of scutellar bristles. Scutellum not very thick but convex, with distinctly impressed rim. Pronotum with only fine pile, generally, but sometimes with 1 pair of bristles. Postmesopleuron with a few, scattered, fine hairs and a few posteriorly on the pteropleuron, 1 or 2 on the sternopleuron, and 4 or 5 on the posthypopleuron. Metapleuron with 7 or 8 long, slender, fine bristles. Metanotal callosity pollinose only. Metasternum pilose; prosternum fused with the propleuron and with a seam between.

Legs: All the femora are slender, the middle and hind pairs together with their tibiae and tarsi are distinctly elongate; the pile is fine, subappressed and setate, and there is no ventral fringe of pile except for a short, scanty row on the ventral surface of the anterior tibia and a still more scattered row ventromedially on the hind femur. Bristles are moderately abundant but, with a few exceptions, are quite short, sharp but slender; the hind femur bears 1 lateral bristle on the basal fourth, 4 ventrolateral, 2 still longer ventral on the basal fourth; at the subapex dorsally is a striking bristle on each side, but none at the apex. The hind tibia bears 3 or 4 dorsolateral including a prominent, basal element and 1 dorsomedial beyond the middle besides a single, well developed ventrolateral bristle on the apical fifth; apex with 6 bristles. Middle femur with 2 conspicuous, anterior bristles, 3 or 4 anteroventral bristles and on the base 1 or 2 long, ventral bristles. In some species the ventral bristles are 5 in number and shorter. Middle tibia with a single, dorsal bristle near the middle, 2 conspicuous ventral bristles on the outer half and 1 distal, posteroventral bristle. Anterior femur with only a short bristle on the anterior surface near base and apex; in some species with 2 posterior bristles along the middle and generally with 2 ventral bristles near the base. The anterior tibia bears 1 dorsal bristle and 2 exceptionally prominent, long, posteroventral bristles and a ventral row of bristly hairs. Anterior basitarsus as long as the next 3 segments, the middle and hind basitarsi longer than the next three. Claws slender and sharp, the pulvilli and empodium well developed. Trochanters with 2 or 3 medial bristles.

Wings: The marginal cell is closed and stalked and in freakish individuals closed at the apex. The subcostal cell and anterior border of the marginal and submarginal cells villose. The second submarginal cell is exceptionally narrow, arising in an arch from the plane base of the third vein. The anterior branch ends at the apex, posterior branch behind. Fourth posterior cell closed and stalked, the anal cell likewise. Alula moderately large, the ambient vein complete.

Abdomen: The abdomen is rather slender and subcylindrical, never as wide as the mesonotum. The pile is scanty, subappressed setate, with a few, longer hairs along the sides of the first four tergites. Sides of the first tergite with 6 or 7 pairs of slender bristles and the lateral subposterior margins of all the remaining tergites with conspicuous slender bristles. Males with eight tergites, the last being half as long as the seventh and well developed. Females with seven tergites, the ovipositor beginning beyond this. Male terminalia with a characteristic, long, slender, pronglike superior forceps which separates rather widely both at base and apex; in some species the apex curves towards the midline. Gonopod only half as long as the forceps. Hypandrium short, and the aedeagus forms a simple tube. The female ovipositor consists of a short, subcylindrical, slightly compressed eighth tergite with accompanying sternite below, and with short ninth and tenth segments, the latter being free. The eighth segment bears a few, slender bristles and some bristly setae.

Distribution: Neotropical: *Glaphyropyga aristata* Carrera (1950); *himantocera* Wiedemann (1828); *pollinifera* Carrera (1945); *setosifemur* Enderlein (1914).
Australian: *Glaphyropyga australasiae* Schiner (1868).

Genus *Opopotes* Hull

Figures 363, 747, 1493, 1502, 2357, 2400

Opopotes Hull, Ann. Mag. Nat. Hist., ser. 12, vol. 10, p. 884, 1957. Type of genus: *Opopotes attenuatus* Hull, 1957, by original designation.

Rather small, slender asilids with greatly reduced pilosity; the wings and abdomen are slender, the face extremely narrow. The antenna is slender, especially on the third segment, which is attenuate distally until it becomes nearly filiform and no thicker than the slender, two-segmented style. From *Senoprosopis* Macquart it is distinguished by the restriction of bristles to the lower fourth of the face, the ventral divergence of the face and the form of the antenna and from *Glaphyropyga* Schiner by the form of the antenna. Length 13 mm.

Head, lateral aspect: The face is visible only on the lower third and then due only to the posterior recession of the eye; the profile is nearly straight and vertical. Eye of moderate length, strongly convex anteriorly and nearly plane posteriorly at least through the greater part of the middle; it is slightly recessive anteriorly above and still more recessive below. The occiput is quite short but present over the whole posterior border of the eye. Pile of the occiput fine and scanty even ventrally, where it is slightly more abundant; in the middle and dorsally there are very weak, slender bristles. The proboscis is long, rather slender, subcylindrical except towards the base where it is a little swollen both dorsally and laterally; the apex is bluntly rounded with a few stiff hairs; the base carries only 2 or 3 long, stiff hairs. Palpus unusually slender and cylindrical with a few apical, bristly hairs and a few others ventrally and ventrolaterally. The proboscis in the specimen before me is directed obliquely forward. The antenna is attached at the upper fourth of the head; the first segment is slender, slightly longer than the second. The third segment is elongate and unusually slender, widest near the base and strongly narrowed distally until no wider than the style. It bears a quite long microsegment followed by a short style which is a little expanded towards its apex and carries a comparatively long, slender bristle. The microsegment if considered part of the style results in a 2-segmented style. First segment with a few minute setae ventrally and a dorsal apex and with a single very stout, long, oblique bristle which extends beyond the second segment. Second segment with a few setae.

Head, anterior aspect: The face below the antenna is a tenth the head width and in the middle becomes even more narrow; it is distinctly widened at the epistoma and more at the bottom of the eyes. Subepistomal area moderately large, deeply concave, pubescent and oblique. The face is pubescent and apilose, with 3 pairs of long, slender bristles on the lower third; each lower, more ventral pair is set farthest apart and on the epistomal margin there are 2 additional pairs, the middle pair stouter; there are 2 fine bristles along the lateral margin of the subepistoma. Front very slightly widened, slightly convergent across the ocelli but the upper vertex a little wider; the front is short, pubescent, with 2 fine, stiff hairs laterally on each side; the vertex is moderately excavated, the ocellarium of moderate height but small with vertical sides and bearing behind the ocelli a pair of slender bristles strongly curved forward. Anterior eye facets greatly enlarged.

Thorax: The thorax is pollinose. The pile of the mesonotum is almost reduced to none. There are a few, fine acrostical elements in a double row anteriorly and 2 or 3 other fine hairs laterally; a single, fine, slender, dorsocentral, bristly hair anterior to the suture; and beginning at the suture, are 3 pairs of long, slender, dorsocentral bristles on the posterior half of the mesonotum. Humerus with 2 or 3 fine hairs. The following long, slender, lateral bristles are present: 2 notopleural, 1 postsupraalar, 1 suprapostalar, 1 postalar, and 1 pair of scutellar. The scutellum is pollinose, thick and convex with distinctly impressed rim and rather deep, basal crease. Propleuron with a few scattered hairs ventrally and 2 or 3 pairs posterolaterally. Postmesopleuron and upper sternopleuron with a few, fine hairs. Pteropleuron and posthypopleuron likewise with a few, fine hairs. Metapleuron with a vertical row of 7 or 8 moderately long, slender bristles; metanotal callosity without pile; lateral metasternum with numerous, long, fine hairs, the ventral metasternum with 3 or 4 fine, long hairs on each side; postmetacoxal area apparently chitinized. Posterior basalare with a few, fine hairs; squama with a simple fringe in 2 or 3 rows. Prosternum dissociated.

Legs: Both the middle and hind femora are distinctly elongate, especially the posterior pair. The hind femur is slender basally, slightly dilated from near the base, the maximum dilation is on the outer third; all the pile is scanty, the dorsal and lateral pile is fine, short and appressed. The following complement of bristles is present on the hind femur: A subapical, dorsolateral, and dorsomedial bristle, with a dorsolateral element at the basal sixth; 3 ventrolateral on the outer half, 2 long, slender, ventral elements near the base. Hind tibia, which is long and slender and nearly as long as the femur has 3 dorsal, 1 dorsomedial beyond the middle, 1 stout ventrolateral bristle on the apical fourth, and 2 or 3 additional, fine, long hairs ventrolaterally. There is no brush of setae ventrally. Hind basitarsus long and slender, slightly longer than all the remaining segments of the tarsus. Middle femur with 3 rather stout, sharp bristles anteriorly, 2 on the basal half, 1 just beyond the middle, 1 posteroapical, and 3 unusually prominent, long, stout bristles posteroventrally on the basal half; also with 7 almost equally prominent, ventral bristles, most of them on the basal half. This tibia has a fine, slender bristle dorsally in the middle and 2 fine, short hairs dorsally before the middle. There is a single, quite long, stout, posteroventral bristle at the outer third matched by a similar, anteroventral bristle and with an additional anteroventral bristle at the middle. On the basal half there are 4 extremely fine, long, posteroventral hairs.

Anterior femur with 4 long, stout, ventral, basal bristles; its tibia has 2 exceptionally long, posteroventral bristles near the middle, and 2 weak, rather short dorsal bristles. The brush of setae begins at the basal third; the ventral bristles at the apex are exceptionally long, the tarsal bristles moderately long, the basitarsus as long as the next 3 segments. All tarsi end in slender, sharp claws, strongly curved on the outer half, large pulvilli and empodium thickened near the base.

Wings: The marginal cell closed with a stalk of medium length; the anterior branch of the third vein ends at the wing apex; the posterior branch ends at a considerable distance behind the apex, equal approximately to the difference between the ends of the second and third veins. The second submarginal cell is towards the base, gradually and progressively widened; first and second posterior cells widely open. Fourth posterior cell closed with a long stalk, straight posteriorly and rather strongly convex anteriorly and distally; the lower end vein of the distal cell is pulled strongly back toward the base of the wing. Anal cell closed; alula moderately wide, the ambient vein complete. Wing avillose, except in the subcostal and the end of the submarginal cells.

Abdomen: The abdomen is slender, subcylindrical but with a very slight flattening across the middle of the tergites; the sides are nearly parallel to the end of the fifth tergite and the sides are rolled. Pile of the abdomen very scanty, fine, short and appressed; the sides of the first slightly protuberant tergite bear fine, long, stiff hairs; lateral postmargin of the remaining tergites with 4 or 5 long, stiff hairs. First sternite without pile; remainder with a few, fine, long hairs. Eight tergites present in the female; the eighth is two-fifths as long as the seventh, the seventh nearly as long as the sixth. Female terminalia extremely short, the ninth tergite is broad dorsally and slightly depressed; considerably wider at the base than long; the tenth is a little longer than wide at the base and turned downward. Both ninth and tenth segments are turned downward.

Distribution: Neotropical: *Opopotes attenuatus* Hull (1957).

I have before me a second species which is undescribed, and also Neotropical.

Lycoprosopa, new genus

FIGURES 382, 788, 1547, 1556, 2196, 2269, 2488, 2489

Type of genus: *Asilus atrimaculatus* Hobby, 1934.

Medium size flies, characterized by the extraordinarily long, slender, second submarginal cell, the fork of the third vein situated before the end of the discal cell, by the narrow face, together with the narrow, long, third antennal segment and somewhat dilated aristal apex. It is distinguished from *Lecania* Macquart by the presence on the scutellum of a distinct, impressed rim, a male superior forcep which is greatly narrowed at the base and a female ovipositor which like *Astochia* Becker is composed of six segments. Length 18 to 27 mm.

Head, lateral aspect: The head is comparatively short, the face plane with the eye except on the lower third which is only slightly produced and chiefly evident on account of the recession of the eye. The face is almost entirely plane. Occiput poorly developed both below and above and a little more extensive along the middle; ventrally it bears scattered, fine hairs. The base behind the proboscis bears on each side a separated tuft of longer, radiating hairs. The upper occiput has weak bristles in the middle and slender bristles at the upper eye corners. The proboscis is slender and rather pointed at the apex which bears fine hairs. The ventral surface at the middle has 5 or 6 long, oblique hairs; the base has a tuft of 10 or 12 hairs. Palpus quite slender and long, with 2 long, apical bristles and shorter, fine hairs along nearly the whole surface. The antenna is attached near the upper third of the head; the first segment is slender and about four times as long as wide and more than twice as long as the second segment. Both bear rather numerous, long setae ventrally and near the apex short setae dorsally. Third segment slender, more narrow than the second; it is attenuate on its distal half and has 1 dorsal seta and the style is a little thickened at the apex and tipped with a bristle. The style is 1½ times as long as the third segment.

Head, anterior aspect: The width of the head is about 1⅓ times the height of the head. The face below the antenna is quite narrow, and about a tenth the head width. It is strongly divergent below where it is more than twice the upper width. Surface densely appressed, micropubescent with a vertical row of 5 stiff hairs on each side, and clustered closely in the middle above the epistoma is a group of about 20 long, stout, whitish bristles reaching to the end of the proboscis; there are 1 or 2 others along the sides of the subepistoma, which is narrow, deeply concave, pollinose. Cheeks very short. The front is only very slightly wider than the upper face, but the vertex is distinctly narrowed and moderately excavated; its lateral walls are vertical; the moderately large ocellarium is low, with vertical walls, and bears behind the ocelli a pair of small, bristly hairs curved forward. The pollinose front bears a single row of short, weak, ocular, marginal bristles.

Thorax: The thorax is short and rather high, especially the mesonotum, which is evenly convex and pollinose with almost no pile even laterally. There are 8 fine setae medial to each humerus, an acrostical row of fine setae and fine, short, dorsocentral bristles over the middle which change to 4 longer, stouter elements behind. Lateral bristles long and stout; there are 2 notopleural, 2 supraalar, 2 on the postalar callosity, and 1 pair on the scutellar margin. Scutellar disc pollinose, with 3 or 4 setae on each side and a distinct, impressed rim. Metanotal callosity pollinose only. Posterodorsal mesopleuron and the sternopleuron with a tuft of pile. Metapleuron with 5 slender bristles and 4 that are more stout. Hypopleuron with only 1 hair. Pronotum long and flattened. Postmetacoxal area membranous; prosternum dissociated.

Legs: All the femora comparatively slender with fine, appressed setae dorsally; the ventral and posterior surfaces are almost bare. Hind femur with 3 short, lateral bristles on the basal half, 2 ventrolateral on the outer half, and 1 at base; it also has 2 long, ventromedial bristles, 1 at the base, 1 at the middle and 1 pair of bristles dorsally on each side at the subapex, besides an additional, apical medial bristle. Hind tibia with 3 dorsolateral bristles and 2 ventrolateral bristles on the discal half. Middle femur with 2 stout anterior bristles on basal and apical third, a ventral pair of bristles on each side near the base and sometimes 2 other, quite stout, ventral bristles, 1 at the middle and 1 at the outer fourth, besides a posterior bristle at the apex. Middle tibia mostly with short, weak bristles; there are 1 anterior dorsal bristle at the outer fourth, 1 posterodorsal on the outer half, and 2 or 3 posteroventral bristles, besides 2 quite stout, ventral bristles on the outer half. Anterior femur with only a bristle at the apex anteriorly and 2 at the base ventrally. The anterior tibia has a small bristle at the base dorsally, 3 or 4 minute bristles anterodorsally and distally, 2 others posterodorsally; its only conspicuous bristles are 2 long, stout elements posteroventrally at the middle and outer fourth. Claws rather slender, bent at apex and sharp; the pulvilli are long; the empodium is somewhat bladelike.

Wings: The wings are slender, villose on more than the outer third. The marginal cell is comparatively broad, closed with a short stalk, the second submarginal cell is extraordinarily long and slender, the anterior branch of the third vein is straight and ends at the wing apex. The lower branch is nearly straight and ends behind the apex. Fourth posterior cell closed and stalked, the anal cell likewise. The third vein forks before the end of the discal cell. The veins closing the second basal cell are fused for a short distance. Alula large; ambient vein complete.

Abdomen: The abdomen is rather slender, the first segment, however, is nearly as wide as the mesonotum and considerably wider than the second. Surface pollinose with scattered, coarse setae and with along the lateral margin still more sparse, long, slender or bristly hairs which are bristlelike beyond the second segment. Laterally the first segment has only 2 or 3 weak bristles; there is a tuft of long, erect, slender, bristly hairs on the sides of the first and second segments and near each posterior corner along the posterior margin of segments 2 to 5 there are 2 rather stout, comparatively long bristles. Males with eight segments, the eighth dorsally less than half as long as the seventh. Females with only four segments not incorporated in the ovipositor. Male terminalia long and compact, the proctiger extruded. The superior forceps much narrowed at base, the gonopod is rather small and short, wedged in between the long hypandrium and superior forceps. Female ovipositor strongly compressed laterally on the rather high fifth and sixth segments, less high on the less compressed seventh segment and the last 3 segments also only a little compressed and also reduced in size, both in width and height.

Distribution: Ethiopian: *Lycoprosopa atrimaculatus* Hobby (1934).

Genus *Polyphonius* Loew

FIGURES 325, 761, 1510, 1519, 1575, 2176, 2235, 2277

Polyphonius Loew, Linnaea Entomologica, vol. 3, p. 402, 1848. Type of genus: *Polyphonius laevigatus* Loew, 1848, by monotypy.

Medium size flies, at once characterized by the very greatly thickened and swollen middle femur which bears a row of 6 short, stout spines ventrally on the outer third; the corresponding tibia has a double row of 4 or 5 short spines distally and ventrally. The absence of a distinct style on the elongate, slender third antennal segment should be noted; this segment bears a short, wide, rather thin microsegment with apical spine. Length 15 mm.

Head, lateral aspect: The face is short, gently convex on the upper portion and very slightly concave on the lower half; it is prominent ventrally only through the recession of the eye. The occiput is unusually thick throughout. The eye is posteriorly nearly plane, except on the lower third where it is strongly recessive anteroventrally. Pile of occiput is very abundant, long and rather fine ventrally; it is scanty in the middle but exceptionally abundant dorsally, with a few of the backward elements proclinate; at the middle of the head and continued dorsally are weak bristles which, while longer above, are slender and poorly differentiated from the bristly pile. The proboscis is rather stout, subcylindrical, and very slightly swollen ventrally on the basal half from the lateral aspect; on the dorsal aspect it is slightly wider basally; a medial ridge is absent; the apex bears numerous, long, stiff hairs including some below; the lateral margins basally have a tuft of 8 long, oblique, bristly hairs, the ventral margins of the swollen part also bear some long, stiff hairs; the proboscis is directed obliquely downward. Palpus stout with bristly pile, especially abundant at the apex and dorsally. The antenna is attached at the upper fourth of the head and moderately elongate; the first segment is a little longer than the second. The third segment, with its microsegment is about 1½ times as long as the combined length of the first two segments. It is subcylindrical or very slightly compressed laterally, attenuate apically to a very moderate extent and bears a rather short, flattened microsegment which is a little narrowed at its apex and carries in the middle of the apex a distinct, short spine.

Head, anterior aspect: The face below the antenna is a fourth the head width and divergent at the epistoma. Subepistomal area unusually deeply concave, of moderate length and quite oblique. The face is pubescent, the pubescence long, coarse and matted laterally, and with numerous, fine, long hairs which are slightly bristly in character. Down the middle half of the face, beginning beneath the antenna, this pile is rather long and across the epistomal margin are 3 pairs of long, slender bristles with 3 or 4 pairs of additional, slender bristles and other bristly hairs situated in several rows along the sides of the subepistomal margins. Front bare in the middle, quite short, with a rather wide band of long, bristly pile along the eye margins. Vertex but little excavated though the sides are rather steep; the ocellarium is large but only moderately high with steep sides, large ocelli and 3 pairs of bristly hairs across the middle, 1 pair of which is accentuated and with 1 or 2 additional pairs between the posterior ocelli. Posterior portion of vertex only a little more deeply excavated; anterior eye facets but little enlarged.

Thorax: The thorax is minutely appressed pubescent on many parts, which include the upper mesopleuron, small portions of sternopleuron, middle hypopleuron, the metapleuron, the lateral and medial portions of the mesonotum, and on a prominent, converging stripe on either side in the middle of the lateral part of the mesonotum. The pronotum also is everywhere pubescent. The mesonotum is very steep and convex posteriorly; the anterior margin is vertical but not so high. The pile of the mesonotum is rather dense but fine and suberect for the most part but with considerable, short, bristly pile medially. Acrostical elements are undifferentiated, though there is a rather wide, medial band of pale pile; on each side of this medial band is a rather dense band of short, numerous dorsocentral elements which become a little longer posteriorly and give way on the posterior third of the mesonotum to long, dense, pale, slender bristles or bristly hairs. Humerus with short, subappressed pile. The following complement of long, stout, lateral bristles is present: 3 notopleural, 2 supraalar, 3 or 4 postalar. The postalar region has additional bristly hairs. Margin of scutellum with 2 or 3 pairs of long, quite slender bristles and additional long, bristly pile. Beginning on the outer edge of the convex, upper portion, the whole disc is covered with long, erect, exceptionally dense, pale, bristly hairs. Scutellum thick, convex, with distinct, impressed rim and sharp basal crease; propleuron with abundant, long, stiff pile; the pronotum with 5 pairs of quite slender bristles, but none on the posterolateral element, which is separated from the posterior mesonotum by a very deep crease or fissure. Upper border of the mesopleuron with abundant, stiff pile; anterior and upper middle sternopleuron and the pteropleuron each with a tuft of fine hairs. Posthypopleuron with 8 or 10 long, slender hairs.

Metapleuron with 8 to 10 long, quite slender bristles; lateral slopes of the metanotum pubescent only; posterolateral metasternum and ventral metasternum with some long, fine pile; the latter is narrow and chitinized; postmetacoxal area membranous; tegula with setae; basalare pubescent only. The middle vertical band of the metapleuron may contain as many as 30 elements.

Legs: The anterior and hind femora are distinctly swollen and heavier than usual but the middle femur is very greatly swollen and oval and the swelling is as much ventral as dorsal. Dorsal pile dense but rather fine, long, and appressed. The following complement of bristles, which are mostly stout, and rather short, present in the type of genus: Hind femur with 3 dorsolateral, 2 of them on the outer half, and 1 additional more nearly dorsal element, and 1 somewhat weaker dorsomedial element, all of which are subapical; apex with 1 moderately stout, dorsomedial bristle. Also there are 5 stout, pale, attenuate, ventrolateral bristles followed by 4 ventrolateral, subapical, almost spinelike, rather blunt, black bristles, of which there are 2 ventromedial counterparts. In addition there are about 10 stout, ventromedial bristles extending to the base, with 2 or 3 more ventral, basal bristles. Hind tibia with 4 or 5 dorsomedial and 3 or 4 dorsolateral bristles. The bristles at the apex are very strong and include 4 ventral, 1 ventral subapical, and 2 weak, subdorsal elements which are lateral and medial. Middle femur with 2 stout, pale, posterodorsal subapical bristles and 2 stout, short, pale anteroventral bristles in the middle, 3 slender anterior elements in the middle, and with characteristically on the ventral margin on the outer third a row of 6 short, black, subtuberculate, very stout spines. Middle tibia with a few long, bristly hairs posteriorly and on the outer third of the anteroventral margin with a row of 6 short, black spines together with an additional, still more stout element at the apex. The corresponding posteromedial margin has 5 such robust spines.

Anterior femur with a strong, black subapical bristle anteroventrally and with long bristly hairs ventrally. Anterior tibia with at least 4 anterodorsal and 1 or 2 apical posteroventral bristles but otherwise with only coarse, appressed pile. The apex on the ventral half has 7 or 8 spinelike bristles. Anterior basitarsus short and stout, as long as the next two segments; the middle basitarsus is barely longer than the next segment. Hind basitarsus as long as the next two segments. Postcoxa with 3 bristles and other bristly hairs. All tarsi end in stout, rather blunt claws which are only a little sharpened, bent chiefly at the apex; long spatulate pulvilli; and a short, bladelike empodium about half as long as the claw, and swollen laterally.

Wings: The wings are broad; the marginal cell is closed with a long stalk, the subcostal cell quite narrow; the wing is not expanded although the costal cell extends beyond the subcosta. The second submarginal cell is quite narrow throughout its length and long, originating at the end of the discal cell; upper and lower end veins of the distally widened discal cell of equal length. Fourth posterior cell closed with a long stalk, anteriorly convex. Anal cell closed and stalked; second basal cell ends in 3 veins, the middle vein long; alula large, ambient vein complete; the first to the third posterior cells widely open.

Abdomen: The abdomen is robust basally but not quite as wide as the mesonotum. In the male the abdomen is subcylindrical, and scarcely at all tapered, being robust and rather thick and wide posteriorly, but in the female it is strongly tapered progressively, although relatively wide as far as the end of the fifth segment. Males with seven tergites only, the eighth apparently completely eliminated or at most with a medial linear membrane. Female with seven tergites, the eighth is included in the ovipositor, a little longer than the seventh; it is high basally, low apically and strongly compressed laterally; the dorsal margin is narrowly convex. Ninth tergite and the tenth minute and short; the abdomen is characteristically pollinose fasciate posteriorly on the tergites, yellowish in females, greyish white in males. Pile rather long and dense on the sides of the first three tergites in both sexes and also continued moderately long in the female. The dorsal pile is fine, suberect and a little shorter; bristles are absent except on the first tergite, where they are very slender and consist of 3 or 4 pairs. First sternite with short, fine pile. Male terminalia unusually large and conspicuous, not rotate; the superior forceps separated to the base, longest ventrally and strongly sloping downward dorsally. Gonopod also large, convex ventrally; hypandrium extremely short, if present.

Distribution: Palaearctic: *Polyphonius laevigatus* Loew (1848).

Genus *Regasilus* Curran

FIGURES 207, 685, 1406, 1415, 2200, 2209, 2421, 2422

Regasilus Curran, Amer. Mus. Novitates, no. 487, p. 24, 1931. Type of genus: *Regasilus strigaria* Curran, 1931, by original designation.

Rather small or medium size flies with the general characteristics of *Asilus* Linné and like that genus without bristles on the sides of the abdomen except on first tergite. Metanotal callosity without pile or bristles. It differs in the absence of bristles or pile upon the metanotal callosity. It has well developed acrostical and dorsocentral bristles anteriorly which separate it from *Apoclea* Macquart. Hind femur with 14 to 16 stout, ventral bristles in a partly double row. There is a strong gibbosity on the lower half of the face which distinguishes it sharply from the *Neolophonotus* Engel group. Length 14 to 18 mm.

Head, lateral aspect: The head is of medium length, the face nearly but not quite plane with the eye on the upper half but with an extensive gibbosity on the lower half which tends to be rather abruptly developed dorsally. The occiput is short on the upper half of the head, a little more prominent at the top of the eye and still more so on the lower third, where the eye is posteroventrally recessive. The lower third of the occiput bears rather fine pile; weak bristles are found over the middle of the occiput and are strongly turned downward; near the upper eye corner are 6 stout bristles, some of them strongly proclinate. The proboscis is rather small, cylindrical, and slightly widened towards the base, with a bluntly rounded apex. It extends only a short distance beyond the face and bears much, coarse, long pile ventrally on the basal half. Palpus small, cylindrical, of one segment, with fine terminal hairs. The antenna attached to the upper third of the head; the first segment is twice as long as the second and bears ventrally and laterally unusually numerous, moderately oblique bristles. Second segment with 2 or 3 fine setae subapically, above and below. Third segment missing from the material available.

Head, anterior aspect: The head is about 1⅔ times as wide as high. The face below the antenna is about a fifth the head width, or less, and strongly divergent below. Surface of face and the rather short cheeks pubescent. Pile absent on the plane portion of the face. The gibbosity is densely beset with long, slender, slightly curved bristles. Placed on a small, medial, triangular area just before the epistoma are about 6 remarkably stout bristles. More slender bristles are continued along the whole border of the large, oblique, subepistomal area. The front is short, wider than the upper face, with a subocular row of 3 or 4 quite fine, bristly hairs continued on to the vertex, and adjacent to it medially is a row of 4 other hairs. The vertex is distinctly narrowed, moderately excavated, and more deeply excavated behind. The ocellarium is medium in size and set anteriorly forward and has vertical sides. There are 4 pairs of long, slender, bristly hairs between the ocelli and 2 pairs behind.

Thorax: The mesonotum is high and strongly arched both anteriorly and posteriorly. The anterior portion tends to be a little narrowed and pinched or compressed sublaterally. The surface is thinly pollinose, with a broad band and submedial stripe of more dense, pale pollen. There is a submedial, extensive, bare area. The pile is scanty and scattered but long and bristly in character. There is a distinct, double row of rather long, acrostical elements and dorsocentral elements are differentiated by length at a plane corresponding to the level of the humerus. They become long on the posterior third of the mesonotum. Humerus with bristly pile. There are 1 or 2 posthumeral bristles and the lateral complement of long, stout bristles contains 2 notopleural, 1 postsupraalar, 1 to 3 suprapostalar, 2 postalar, and 1 pair of strong scutellar bristles, with some additional bristly hairs. The scutellum is only a little thickened, convex, with distinct impressed rim. Pronotum with 2 or 3 pairs of weak bristles and some fine pile. Upper margin of the mesopleuron with a band of 15 or more distinct, though slender bristles, all quite long. Anterior basalare below with a row of 6 or 7 stiff hairs, along the rim. Posterior margin of the mesopleuron without pile, but the upper sternopleuron and upper pteropleuron with a conspicuous tuft of long, coarse hairs and the pteropleuron with 2 slender bristles. Posthypopleuron with some pile, the metapleuron with a narrow band of 10 or 11 slender bristles. Metanotal callosity pollinose only. Metasternum pilose; postmetacoxal area membranous. Prosternum dissociated. Anterior basalare with bristly hairs on the anteroventral margin.

Legs: All the femora are stout but only the anterior four swollen. The hind femur and to a less extent its tibia are lengthened and more elongate. The pile is coarse, rather long and flat appressed. Only the femora have ventral fringes of long, stiff or bristly hairs and they grow more conspicuous from the hind pair to the front pair. Bristles are rather numerous, stout and sharp. The hind femur bears 4 lateral, 15 ventrolateral in a partly double row, and 7 or 8 very slender, pale ventromedial bristles, besides a spikelike, black bristle ventromedially near the apex. Also, dorsally at the subapex is a bristle on each side, but at the apex only stiff, bristly hairs a little longer than the setae. The hind tibia bears just beyond the middle, 2 dorsolateral, 1 dorsomedial, and 2 ventrolateral bristles; apex with 8 bristles. Middle femur with 3 stout bristles anteriorly, 7 others anteroventrally; its tibia has 1 long, stout and 1 slender, anterodorsal bristle, 6 posterodorsal bristles, only 2 of them stout, 3 posterior bristles, 1 posteroventral and 2 anteroventral bristles, all stout and confined to the outer half. Anterior femur without prominent bristles but with some bristly hairs and much long, coarse hairs ventrally. The anterior tibia has 1 rather stout bristle near the base dorsally, 8 moderately long posteroventral bristles. Anterior and posterior bristles of the tarsi long, stout and oblique. Claws slender, sharp, bent at the apex; the pulvilli and empodium well developed.

Wings: The wings are tinged with brown on the apical third. The marginal cell is comparatively wide, including the apex and closed with a moderate stalk. The anterior branch of the third vein ends barely before the wing apex, the posterior branch some distance behind. The base of second posterior cell only moderately and gently widened. Anterior margin of fourth posterior cell rather strongly convex, partly occluding the discal cell. Fourth posterior cell closed with a short stalk, the anal cell likewise. Alula large, the ambient vein complete.

Abdomen: The abdomen is comparatively slender, cylindrical and slightly tapered. The pile is scanty, fine, setate and appressed with a little long, fine, erect hair on the sides of the first three segments. There are 2 pairs of stout bristles laterally and a posterior, middle fringe of bristly hairs on the first tergite. Males with eight tergites, the eighth is a third to half as long as the seventh; seventh tergite with 7 or 8 slender bristles along the posterior margin, and the eighth sternite with a dense, conspicuous band of slender, black bristles thrust obliquely downward. Male terminalia elongate, not rotate. The superior forceps broad and flat apically and laterally compressed, closely apposed posteriorly, with the short proctiger extended obliquely upward. The gonopod is short but the hypandrium is large, with a cuplike excision ventrally and medially and laterally extending more than half way up the sides of the terminalia. In general these terminalia suggest *Philonicus* Loew in appearance but there is no posterior dorsal opening. The female terminalia consist of the eighth to tenth segments. In the only female before me there is a marked lateral compression but some of it may be unnatural and apparently the normal shape is not quite cylindrical. The eighth segment is about twice as long as high. The ninth tergite is extremely short and button-like, and the tenth is smaller, cylindrical, twice as long as wide, with obliquely concave apex, and with the apex below. The tenth ventral element is a flattened and greatly compressed structure with broadly and evenly rounded, apposed, apical plates.

Distribution: Nearctic: *Regasilus blantoni* Bromley (1951).

Neotropical: *Regasilus strigaria* Curran (1931).

Genus *Eraxasilus* Carrera

Eraxasilus Carrera, Opuscula Zoologica, no. 30, p. 6, 1959. Type of genus: *Eraxasilus pruinosus* Carrera, 1959, by original designation.

The following description is from Carrera.

> Characters—Face slightly wider on the buccal margin; facial callosity large, occupying two thirds the length of the face and with bristles on all its surface; proboscis cylindrical, not swollen at the base; third antennal segment fusiform; arista little larger than this same segment and with a small apical swelling. Mesonotum without median longitudinal crest; lateral and posterior dorsocentral bristles developed, anterior dorsocentrals small; acrostical bristles short, larger posteriorly; pteropleura with very scanty pilosity; scutellum with marginal bristles; callosities of the postscutellar region without hairs. Hind femora not very thick, with short bristles, without any differentiated structure. Wings with two submarginal cells; bifurcation of the "da." longitudinal vein in an angled curve and without any vestige of vein appendage at its base; the posterior branch of bifurcation of the third longitudinal vein is more or less straight and ends a little before the apex of the wing. Abdomen going a little beyond the apex of the wings when these are extended over it; posterior margin of the segments without differentiated bristles; genitalia of the ♂ distended in the same direction as the abdomen, without forming an angle with it; ninth sternite large, rounded; ovipositor short, laterally compressed.

This genus is close to *Asilus* Linné, 1758, from which it is separated chiefly by the absence of pilosity on the lateral callosities of the postscutellar region ("lateral slopes of the metanotum" of Curran); by the form of the proboscis, which is not so thick at the base; by the form of the genitalia (♂) where the ninth sternite is rather well developed; by the greater length of the ovipositor. There is also some affinity between *Eraxasilus* n.gen., and *Regasilus* Curran, 1931. However, the original diagnosis of the latter indicates characters that are not found in *Eraxasilus*, such as the presence of more or less conspicuous acrostichal bristles and the abundant pilosity of the pteropleura.

Length 17–19 mm.; wing 11–12 mm.

Distribution: Neotropical: *Eraxasilus pruinosus* Carrera (1959).

Myaptex, new genus

FIGURES 195, 688, 1490, 1499, 2267, 2313, 2437, 2445

Type of genus: *Myaptex hermanni*, new species.

Medium size flies of dark coloration. The head is nearly circular from the front and the face has a prominent, abruptly developed gibbosity on the lower three-fourths, which bears numerous, long, bristly hairs. The antenna is attached only barely above the middle of the head and the deeply excavated vertex has vertical sides. Metanotum without pile, the tergites are without lateral bristles, except on the first tergite. *Myaptex* will trace to *Regasilus* Curran from which it differs by the greatly narrowed, distal end of the discal cell, the strong, facial gibbosity occupying the lower three-fourths of the face, the curved occipital bristles. These flies are possibly related to the *Neolophonotus* Engel group. Length 15 mm.

Head, lateral aspect: The face is very strongly produced on the lower three-fourths and the gibbosity abruptly developed. The eye ventrally is angular but comparatively long. The occiput is well developed and more prominent below, due to the recession of the eye; bristles begin above the middle and consist of 7 short, weak, yellow bristles turned downward, and above these, nearer the vertex, are 10 short but stout black bristles on each side; pile of occiput fine, long, moderately abundant and brownish white. The proboscis comparatively short and robust, extending but little beyond the facial gibbosity. At the apex it bears pile only dorsally and the apex is obtusely rounded; ventrally it bears a tuft of long hairs which originate and are restricted to the middle of the proboscis. The palpus is small, cylindrical, slender, with stiff, long, yellowish hairs. The antenna is attached a little above the middle of the head, and style excepted, it is considerably shorter than the head. The first segment is twice as long as the second and the second segment scarcely longer than wide; both bear short, bristly hairs below and long, fine setae above. The third segment is as long as the first segment; it is long oval and wider than the basal segments and it bears a distinct, short microsegment followed by a stout, oblique style very little longer than the third segment; the third segment may have 1 or 2 fine hairs above.

Head, anterior aspect: The face beneath the antenna is about a fourth the head width and slightly wider below. The upper face is without pile, the whole face with brownish white pubescence. The whole gibbosity of the face bears numerous, long bristles. The bristles which compose the lowest row across the epistoma are quite stout, but the dorsal elements and the greater part of the bristles are slender; slender bristles continue down the sides of the epistoma, the lateral elements are brownish yellow, other bristles are black. The front is large, with a single longitudinal row of 10 fine, long, stiff or bristly hairs on each side. Vertex deeply excavated, with steep or vertical sides; the ocellarium is small and low and bears on each side 4 rather stout, long bristles.

Thorax: The mesonotum is not high and is gently convex in front with a double acrostical row of stiff, short, black, suberect setae and with an adjacent bare stripe followed by a row of 9 or 10 similar, dorsocentral elements which become extremely long and very stout before the middle of the mesonotum; there are 3 bristles posteriorly in the acrostical row. All lateral bristles are black, long and stout, and consist of 2 notopleural, 2 postalar, and 2 scutellar bristles all directed upward. The disc bears abundant, stiff, moderately long, curved, upturned, yellow pile. Pleuron with a vertical row of 6 bristles on the metapleuron, the 2 lower elements rather long and moderately stout; and the metapleuron with 4 or 5 additional, long, slender, yellow, erect hairs. Propleuron with 3 pairs of rather long, moderately stout, yellow bristles. Humerus with only yellow pile. Upper sternopleuron and postmesopleuron below with 3 to 5 slender, yellow hairs, the sternopleuron with 10, pteropleuron with 8 hairs. The metanotal slopes are moderately bullose, slightly creased medially and without pile, pubescent only. Lateral metasternum with a few weak hairs; postmetacoxal area membranous.

Legs: The anterior and middle coxae have numerous, very stiff, brownish white, long, backwardly curved hairs. Hind femur distinctly stout, densely appressed, short, brownish yellow setate with numerous, rather long, stout bristles consisting of 4 lateral elements and 1 dorsomedial bristle and 1 dorsomedial apical bristle. Along the anterior ventral margin are especially stout, long, black bristles; ventromedial margin with 9 or 10 long, slender, brownish white hairs, among which are a pair of stiff, brownish yellow bristles close to the base. The hind tibia is slender and has 4 stout, black bristles dorsolaterally and 2 strong lateral bristles at the middle and outer fourth; apex with 3 ventral and 1 lateral bristle. Middle femur with 5 very stout, long, anterior bristles and 5 anteroventral bristles and the postventral margin with a row of 10 long, stiff, brownish yellow hairs or weak bristles. The middle tibia has moderately long, stout bristles: 3 dorsal, 2 anterodorsal at the middle and outer fourth, 4 posterior, 2 of them near the middle posteroventrally, and 2 especially strong oblique, long, ventral elements; also at the outer fifth are 3 long, ventral apical bristles. The anterior femur has a prominent, moderately dense row of long, oblique, dorsal bristles, the distal elements black and replaced basally by 5 or 6 long, slender, yellow hairs. Ventral margin of anterior femur with 10 or 12 long, yellowish hairs and weak bristles. Anterior tibia with 5 long dorsal, and 3 long, stout, black, posterior bristles but with only stiff, yellow hairs ventrally. The apex bears extremely long bristles, 2 anterior, 3 ventral, 2 dorsal, 1 posterior. Basitarsus rather short with very long, posterior bristles. Claws long and sharp; pulvilli nearly as long as claws; empodium nearly as long as pulvilli and bladelike.

Wings: The marginal cell is slightly widened and rippled but the wing is not expanded; this cell is closed with a moderately long stalk. The second submarginal cell takes origin just beyond the end of the discal cell and at its base is equally expanded above and below; the anterior branch of the third vein ends just above the wing apex, the posterior branch a little farther behind. The upper end vein of the discal cell is extremely short and almost eliminated, so that the end of the discal cell is very narrow, but the base of the second posterior cell is not narrowed except at its immediate attachment to the discal cell. Fourth posterior and anal cells closed with a short stalk; anterior crossvein nearly rectangular; alula large, ambient vein complete.

Abdomen: The abdomen is cylindroid and rather distinctly flattened on the middles of the first five or six tergites. First tergite about a third the length of the second, moderately protruded laterally, with a shallow crease and with a considerable amount of stiff, yellow hairs and 2 or 3 weak bristles posteriorly and sublaterally. The subposterior marginal area of the remaining tergites bears 1 or 2 short, yellow or black bristles. Males with eight tergites, the eighth being considerably shortened medially. Seven tergites are present in the female. The ovipositor is a little longer than the last two segments and strongly and gradually compressed laterally. Male terminalia prominent and not rotate. The superior forceps large, short, obtuse, each half bent sharply inward at apex with a deep, dorsal notch. The proctiger is not extended above. The gonopod is half as long as the superior forceps; the hypandrium is prominent and large and the eighth sternite is short with simple apex.

Distribution: Neotropical: *Myaptex hermanni*, new species. Named in honor of Friedrich Hermann.

Myaptex hermanni, new species

Length 11 mm. Male. Head: The head is black in ground color, the face with pale, brownish white micropubescence, extending over the cheeks, but less dense on the gibbosity. The gibbosity has about 6 long, slender, black bristles on each side in vertical rows and several slightly shorter, more slender, white bristles. Sides of subepistoma with 4 slender, black bristles and 2 or 3 white hairs. Ventral surface of proboscis with conspicuous, rather abundant, long, white, opaque pile and lower half of occiput with similar, abundant, opaque, white pile. Occiput along the middle of the eye with 7 or 8 slender, white bristles curved downward. Upper occiput with more stout, short, black bristles, behind which are some stiff, white hairs. The first two segments of the antenna brownish black, the third segment black, short oval, as much narrowed at the base as at the apex and the extreme base reddish. The short style is black and only about as long as the third segment. Pile of the first two antennal segments almost entirely black with a few, pale hairs ventrally at the base of the first segment. Front with quite long, slender, black, bristly hairs and the low ocellarium with 5 still longer, slender, black bristles on each side. Surface of front with light brown pollen laterally.

Thorax: The mesonotum is moderately high, black with light brown pollen. From the anterior view there is a wide, medial, sepia brown stripe obscurely divided by linear pale brown pollen, and on either side of linear stripe an acrostical row of moderately long, slender bristles. Dorsocentral bristles not differentiated until the posterior level or plane of the humerus. There are 5 rather long, dorsocentral bristles anterior to the suture, 4 or 5 behind the suture, besides an additional row posteriorly on each side lying between the dorsocentral bristles. All these bristles and those of the lateral margin black. There are 2 notopleural, 1 supraalar, 1 suprapostalar, 1 postalar, and 1 pair of long, slender, scutellar bristles. Scutellum thick, convex, without impressed rim, the micropubescent metanotum lacks bristles or pile. Squamal fringe long and white in 2 or 3 rows. Humerus pale brown pollinose with a number of long, slender, bristly hairs or bristles. Disc of scutellum with a few, fine, erect, stiff, black hairs. Knob of halteres brownish black. The base reddish, the stalk yellowish. Prosternum dissociated.

Legs: The legs are comparatively slender, with the anterior and middle femora a little swollen and with the middle femur plane on the ventral aspect. Bristles are numerous, moderately dense and long and especially conspicuous on the tibiae and tarsi. All femora are black, becoming reddish brown narrowly at the apex. All tibiae and tarsi dark, reddish brown, including the last segments. Claws quite slender, black, with the base reddish. Pulvilli long and slender. Pile of the legs appressed and yellowish white; all bristles black, with the exception of 2 or 3 ventral bristles near the base on the hind femur; a row of 10 or 11 bristles ventrally on the middle femur and 2 or 3 bristles anteriorly and 1 posteriorly on the same femur. On the anterior femur is a ventral fringe of long, white, erect, bristly hairs with still finer, long, bristly hairs on the anterior tibia.

Wings: The wings are slender and nearly hyaline, at least 3½ times as long as wide. The second submarginal cell is widened both above and below the third vein, the subcostal cell is quite narrow, the discal cell is narrow, with the medial crossvein more than 3 times as long as the rectangular, upper, anterior, intercalary vein. Fourth posterior cell closed with an oblique stalk and with a long, basal petiole. Anal cell closed with a stalk. Posterior branch of the third vein ends distinctly behind the apex of the wing. The anterior branch ends slightly in front of the apex.

Abdomen: The abdomen is black in ground color on the first segment and on most of the second and third tergites, becoming very dark, brownish black across the middle of the remaining tergites and with the side margins of all the tergites light, reddish brown. Posterior margin of all the tergites with a pale, yellowish grey, extensively pollinose, marginal band. The anterior portion of each tergite has, in some lights, a brownish, yellow pollen bearing numerous, small flecks or spots of darker color. Pile scanty, appressed, fine, chiefly yellow and setate. The last tergite is rather short and rather light reddish brown; it is a little longer laterally. Sides of first tergite with 2 long, slender, white, bristly hairs and a number of other shorter, white hairs. Posterolateral portion of the remaining tergites each with 1 or 2 quite slender bristles, mostly pale. There are a very few scattered, black setae near the middle of the tergites. Male terminalia quite long and large, the superior forceps elongate, strongly rounded laterally and bluntly rounded at the apex. Hypandrium large and triangular, the gonopod prominent, the whole terminalia light reddish brown, paler at the end of the gonopod.

Female similar to the male. The tergal bristles slightly more prominent, the tergites slightly more blackish, the sternites, however, more reddish and also with distinctly mottled or pebbled pollen. The female terminalia are strongly compressed laterally but perhaps properly only include the eighth and following segments. The seventh segment is pollinose and like the other tergites, although reduced to half its width posteriorly; the eighth tergite is at least as long as the sixth and seventh combined, and maximally compressed at the apex. Ninth and tenth tergites each rather long and equally compressed, the tenth extending completely free of the ninth sternite.

Type: Male, allotype female, Concepción, Chile, November 19, 1908, collected by P. Herbst. In the collections of the Deutsches Entomologisches Institut, Berlin.

Genus *Leptoharpacticus* Lynch Arribálzaga

FIGURES 373, 687, 1494, 1503, 2346, 2359

Leptoharpacticus Lynch Arribálzaga, Ann. Soc. Cient. Argentina, vol. 10, p. 178, 1880. Type of genus: *Asilus mucius* Walker, 1849, by original designation.

Small, slender, tapered flies with the female terminalia long and very strongly compressed until it is leaf-thin. The face is virtually plane with the eye on at least the upper two-thirds, the whole profile almost plane and vertical, that portion which is visible ventrally as a low triangular elevation is due to the recession of the eye. They are dark colored, greyish yellow pollinose flies with a long, hind femur, which is slightly swollen distally; bristles are few and for the most part rather weak. Lateral metanotal callosities micropubescent only. The scutellum is moderately thick and convex with a distinct impressed rim. Length 12 mm.

Head, lateral aspect: The face is exceptionally short, plane, and nearly vertical, the exposed portion below is due to the recession of the eye and is bluntly triangular. There is a very slight, shallow depression on the lower half. The occiput is of medium thickness through the the entire posterior aspect, disappearing only at the immediate vertex; both eye and occiput are gently recessive anteriorly near the bottom of the head; the pile moderately abundant, long and fine and with only 5 pairs of weak, pale, straight bristles dorsally. The proboscis is only moderately large, subcylindrical, with a low, dorsomedial ridge and distinctly though slightly tapered toward the base from a dorsal aspect; the apex is bluntly pointed and tapered both above and below, and bears only a few bristly hairs; the lateral margins near the base have 2 or 3 long, slender hairs which extend outward and the ventrolateral margin on a little less than the basal half bears a fringe of 7 or 8 similar, yellow hairs. Palpus minute, cylindrical, black, with a few long bristles below and 2 at the apex. The antenna attached at the upper third of the head, with the first segment 1½ times as long as the second, the second segment longer than wide. The third segment is as long as the first two combined and at its base as wide as the second and rather strongly tapered apically. It has a long, distinct microsegment which is slender and a little more than twice as long as wide, followed by a slender, bristle-tipped style. This style and microsegment together are as long as the third segment. First segment ventrolaterally with 5 or 6 comparatively long, stiff, bristly hairs, among them 1 stout bristle and all of them black.

Head, anterior aspect: The face below the antenna is a fifth the head width and wider at the epistoma. Pile on the face is restricted to 5 or 6 comparatively short, pale, bristly hairs on the lower third of the face. On each side of the middle epistomal margin are 2 pairs of moderately stout, pale yellow bristles which reach to the end of the proboscis; there are along the lateral margins of the subepistoma 3 other equally long, more slender bristles which represent a continuation of the transverse row; and still lower on the epistomal margin are 4 pairs of much shorter, more slender, pale bristles. The front is quite short due to the deep excavation of the occiput. Along the eye margins are 3 or 4 short, rather stout, black bristles. Sides of the vertex not quite vertical; the ocellarium is set anteriorly and visible in profile though exceptionally low. It is however, comparatively wide, nearly circular with nearly vertical side; it is without pile or bristles. Anterior eye facets only moderately large and convex.

Thorax: The mesonotum is rather high and strongly convex anteriorly. The acrostical elements are absent; of dorsocentral elements there is a single pair posteriorly which are rather long and only moderately thick; one is black and one is yellow. There were probably additional bristles present and there may have been a few slender elements anteriorly, as on Walker's type specimen there is some slight indication of scars to which they might have been attached. Humerus with only 2 or 3 fine hairs, the lateral mesonotum also with very little pile, 2 fine, bristly hairs in front of the suture and 5 in front of the postalar. There are 2 quite stout notopleural bristles of moderate length, 1 black and 1 yellow; and 1 long, yellow, stout, postsupraalar bristle; 1 stout, yellow postalar posteriorly; and 1 fine, anterior, bristly hair. The scutellum bears a single pair of stout, long, yellow bristles. Scutellum moderately thick and convex, pubescent with a distinct impressed rim and a deep, complete basal crease. Mesopleuron, pteropleuron, and hypopleuron with micropubescence only; metapleuron with a vertical row of 6 moderately long, yellowish, slender bristles. Metanotal slopes without pile. Lateral metasternum with pile. Postmetacoxal area membranous. Tegula pubescent only.

Legs: The hind femur is distinctly though slightly thickened on the outer half, again narrowed at the apex. It has short, appressed pile. The type of genus bears on the hind femur the following complement of stout bristles: 1 quite stout, rather long subapical dorsolateral and 1 dorsomedial and with 3 longer, more slender ventral bristles which are yellow; also 1 short, lateral at the middle, 2 ventrolateral, 1 near the apex, and 1 before the middle. The hind tibia has 1 dorsomedial middle bristle; 2 strong, dorsolateral elements, 1 quite basal, the other placed at the outer fourth; 2 ventral bristles of which 1 is very weak, short, placed at the middle and 1 is longer and near the apex; 2 quite strong, long, ventral, apical and 2 shorter dorsal; 1 longer lateral bristle. The middle femur has 1 strong, long, anterodorsal bristle at outer fourth, 1 weak bristle posteriorly at apex. Middle tibia with 2 long, strong, oblique, ventral elements situated beyond the middle and 2 posterior, one above the other near the apex and 1 weak bristle at the basal third. Anterior femur rather distinctly thickened through the middle, a little compressed laterally, with 3 or 4 long, pale bristles ventrally before the middle. Anterior tibia with 2 short, oblique, appressed, dorsal bristles in the middle and 2 considerably longer posterior elements at the middle and at the outer fourth. The apex bears 2 dorsal, 1 posterior, 1 long anterior and 2 long ventral bristles, with 2 shorter ones lying between. Claws rather long, moderately sharp, curved mostly at the apex; pulvilli flat, thin, almost as long as claw; the empodium long and stiff.

Wings: The marginal cell closed with a long stalk. The anterior branch of the third vein ends at the wing apex, the posterior branch shortly behind the apex. The second submarginal cell is expanded gradually both above and below the third vein; fourth posterior cell closed with a long stalk. Middle end vein of the second basal cell very short. Anal cell closed with a short stalk; ambient vein complete.

Abdomen: The abdomen is cylindroid and strongly tapered, the middles of the first three or four tergites are somewhat flattened. Posterior lateral corners of first tergite with 2 or 3 long, slender, yellowish bristles; succeeding tergites with a single, shorter, reddish yellow bristle in the posterior corners and a few short, stiff yellow hairs along the lateral margin; dorsal pile scanty, appressed and yellowish. First sternite apilose; remainder with scattered, fine, long, bristly hairs. Ovipositor very strongly compressed laterally. The first tergite is a fifth as long as the second one. Seven tergites in the female, the eighth and beyond incorporated in the ovipositor. The ovipositor is quite long, as long as the three preceding tergites.

The only material seen was Walker's unique type of *Asilus mucius*.

Distribution: Neotropical: *Leptoharpacticus mucius* Walker (1849).

Genus *Leinendera* Carrera

FIGURES 379, 797, 1400, 1409, 2419, 2420

Leinendera Carrera, Papeis Avulsos Dep. Zool., São Paulo, vol. 5, p. 184, 1945. Type of genus: *Leinendera rubra* Carrera, 1945, by original designation.

Medium size, slender flies related to *Lycomya* Bigot. It is separated by the very narrow face, the narrow second submarginal cell, the plane face and the greatly reduced pile of the mesonotum, which is strongly differentiated anteriorly. Length 17 to 20 mm.

Head, lateral aspect: The head is of medium length, the face quite short, plane with the eye on the upper half, except for a small protuberant portion immediately below the antenna. The face below is visible, chiefly because of the recession of the eye and the whole surface of the face is almost plane, and the cheeks are extensive below. The occiput is very short and scarcely visible, except to a slight extent along the middle of the eye. Its pile is scanty and fine ventrally with stiff, bristly hairs beginning at the lower third and replaced by moderately stout bristles, only near the vertex. There are 4 pairs of such bristles behind the upper eye corners. Proboscis comparatively slender with moderately swollen base and extended only a little beyond the face. The apex is bluntly pointed and slightly attenuate with short, bristly hairs, and there are only 4 or 5 hairs on each side of the base. From the dorsal aspect the proboscis is a little broadened but not as conspicuously as in *Lycomya*. Palpus of one segment, but with a distinct shelflike trace of the basal segment; it bears stiff hairs; there are 3 very slender bristles at the apex. The antenna is attached at the upper fourth of the head and is slender and elongate. The first two segments are comparatively long with the first segment 1½ times the length of the second; both bear numerous, appressed setae or short bristles ventrally, and a few dorsally at the apex. The third segment is slender, no wider than the second segment, slightly narrowed beyond the middle and nearly twice as long as the combined length of the first two segments. At its apex it bears a short microsegment followed by a greatly shortened and thickened style fully as wide as the microsegment and only about as long as the second antennal segment; its apex is tipped with a bristle.

Head, anterior aspect: The head is nearly as wide as the thorax, but only a little wider than high. The face below the antenna is less than a tenth the head width, slightly narrowed on the upper half and then diverging on the lower portion. Its surface is pubescent with a subocular row of longer, appressed pubescence and pile is absent, except for 7 or 8 quite short, fine, bristly hairs on the lowest fourth. On this same area are 2 pairs of exceptionally long, remarkably fine bristles and above the epistomal margin a cluster of 6, with 2 others placed laterally beside them on each side. There are, moreover, 2 pairs of slender bristles on the sides of the oblique subepistoma. Front small, short and pollinose, with 2 subocular bristles on each side and a row of 4 others placed just medial to the subocular row. The front is slightly divergent, with the vertex a little narrowed. The moderately large ocellarium has vertical sides and is set forward and bears a pair of short bristles behind the ocelli. The vertex is only moderately excavated in front, but is more deeply excavated behind.

Thorax: The mesonotum is moderately high, gently convex over the middle, more strongly arched anteriorly and posteriorly. Its surface is pollinose, mostly dark in color, with unusually reduced pile. There is an acrostical row of appressed bristly hairs, partly doubled, widely separated from a single row of slightly longer, anterior, dorsocentral hairs. Before the suture these begin to become longer and at and behind the suture contain 3 pairs of quite long, slender bristles. Humerus with 4 or 5 fine hairs. The lateral complement of bristles, for the most part long and moderately stout, contains 2 or 3 weak, short, posthumeral, 2 long, notopleural, 1 supraalar, 1 postalar, and 1 scutellar pair of bristles. The convex scutellum is not very thick, but has a distinct, impressed rim, 6 pairs of setae on the margin, and 2 setae on each side of the disc. The pronotum carries 2 pairs of slender bristles and some bristly pile. Upper mesopleuron with 1 hair, the posterior margin with 3 or 4 hairs, a like number on the sternopleuron and 8 to 10 hairs on the upper pteropleuron; also there is 1 stout and 1 slender bristle and 3 or 4 hairs on the posthypopleuron, a few quite slender, bristly hairs and a little other pile on the metapleuron. The metanotal callosity is prominent, it is creased behind, and bears ventrally a tuft of stiff hairs. The whole metanotum is unusually high and pollinose. The metasternum is pilose, the postmetacoxal area membranous; prosternum fully dissociated; whole surface of the pleuron pollinose.

Legs: All the femora and tibiae are comparatively elongate, especially the middle and hind pairs with the hind pair of legs longest of any. The pile is comparatively scanty, very fine, subappressed and setate. Bristles are conspicuous but only moderate in quantity. The hind femur bears 3 lateral bristles on the basal half, no ventrolateral elements but near the base and at the middle an exceptionally long, ventromedial bristle. Dorsally at the subapex there is on either side a conspicuous bristle but none at apex. The hind tibia bears 3 dorsolateral, 1 stout element being at the base; also 1 long, dorsomedial beyond the middle, besides 2 distal ventrolateral bristles. Middle femur with a stout, anterior bristle near the middle and 2 stout, anteroventral bristles on the basal half; likewise, 2 or 3 ventral bristles on the basal half and 1 posterodorsal near the apex. Middle tibia carries only a weak bristle dorsally beyond the middle, 3 long, conspicuous anteroventral bristles, a similar bristle posteroventrally beyond the middle, and a posterior bristle on the basal third. The anterior femur has 3 prominent bristles ventrally on the basal half; its tibia has a weak bristle dorsally in the middle and 3 remarkably long posteroventral bristles, basally stout and attenuate. Anterior basitarsus as long as the next three segments; the hind basitarsus is long as the next four segments. Apex of hind tibia with 6 bristles. The hind femur is slightly narrowed towards the base. Claws slender, sharp; the pulvilli and empodium well developed.

Wings: The marginal cell is closed with a long stalk. The anterior branch of the third vein ends at the apex of the wing; the posterior branch ends a considerable distance behind the apex, and except apically the whole submarginal cell is narrow. Fourth posterior cell closed and stalked, the anal cell likewise. Alula large, the ambient vein complete.

Abdomen: The abdomen is slender, elongate and subcylindrical, the pile is unusually scanty, subappressed and setate, the pollen so faint that the abdomen appears to be shining. Conspicuous though slender bristles are present along the subposterior margins on the lateral third of each tergite and consist of 2 or 3 pairs on each segment. Females have seven segments clearly separated from the ovipositor; the eighth tergite is as long as its basal width and a little narrowed apically; it is shieldlike, overlapping the corresponding reduced sternite, and from above, with its terminal bristles, it appears like an ordinary segment. It may properly be regarded as part of the ovipositor. The ninth segment is subtriangular, about half as long as the preceding segment and broad with only the lateral margins curved downward. The tenth segment is moderately elongate and a little compressed laterally. No males seen.

Distribution: Neotropical: *Leinendera rubra* Carrera (1945).

Genus *Cerdistus* Loew

FIGURES 328, 329, 370, 690, 711, 713, 715, 1513, 1522, 2287, 2322

Cerdistus Loew, Linnaea Entomologica, vol. 4, p. 74, 1849. Type of genus: *Asilus erythrurus* Meigen, 1820. Designated by Engel, 1927.

Paritamus Verrall, British flies, vol. 5, p. 679, 1909. Type of subgenus: *Asilus geniculatus* Meigen, 1820. Designated by Engel, 1927.

Rhabdoitamus White, Papers Proc. Roy. Soc. Tasmania, 1916, p. 95, 1917. Type of genus: *Rhabdoitamus vittipes* Macquart, 1847, as *Neoitamus brunneus* White, 1914. Designated by G. H. Hardy, 1920.

Cerdistus has 1 subgenus, *Neocerdistus* Hardy.

Small, rather diverse flies, which have a microsegment attached to the third antennal segment and have metanotal pile and lateral tergal bristles. They are distinguished primarily by the rather low, distinctly short, facial gibbosity, which is restricted to the lower half of the face; the upper half is generally bare, though occasionally pilose as in *Cerdistus pallidus*. This short face separates them from the *Machimus* Loew group of genera. The absence of strong bristles on the abdominal sternites and a more simple type of male terminalia separates them from their near ally, *Neomoctherus* Osten Sacken. Length 10 to 20 mm.

Head, lateral aspect: The face has a low, rather inconspicuous, rounded gibbosity which is confined to the lower half of the face; the upper portion is nearly plane with the eye. The eye is strongly convex anteriorly, nearly plane in the middle behind and interoventrally recessive on less than the lower fifth of the eye. The occiput is rather short but present throughout the full height of the eye; dorsally it slopes gradually down the eye margin. Pile of occiput fine and scanty in the middle, a little longer and considerably more abundant ventrally. There are weak bristles in the middle of the occiput and 5 to 8 pairs of rather stouter bristles dorsally. The proboscis is moderately stout; the base is a little swollen either in lateral or dorsal view and the apex is bluntly rounded, with a few, stiff hairs; the base ventrally has a few to many, long, fine hairs. Palpus cylindrical and short with fine, stiff hairs apically and on all sides except medially. The antenna is attached at the upper third of the head and comparatively short with the third segment 2½ times as long as its maximum height, but occasionally much more slender. The first segment is as long or slightly longer than the second; the third segment is not quite twice as long as the second segment except in *Cerdistus anonymus* Williston. The third segment carries a short, distinct microsegment; the style may be only half as long as the third segment or of equal length. The pile of the first and second segments consists usually of 4 or 5 moderately long, stout, appressed, bristly hairs ventrally and fewer hairs dorsally; occasionally there are more numerous and somewhat longer stiffer hairs on the ventral surface of the first segment.

Head, anterior aspect: The face below the antenna is a sixth the head width and divergent below. Subepistomal area moderately large, oblique, nearly plane and bare, sometimes pubescent, or concave in *Cerdistus geniculatus* Meigen. Face pubescent and usually without pile but with dense, matted, coarse, bristly pile arising on the upper part below the base of the antenna in *Cerdistus pallidus*. The low facial gibbosity carries rather numerous bristles which are often stout centrally, pale, black, or intermixed, with as few as 8 pairs or more than twice this number and with bristles carried down laterally along the sides of the subepistoma. The front is rather short, pubescent, with 7 or 8 pairs of stiff bristles laterally or with only 5 or 6 stiff hairs. Sides of front very slightly divergent, convergent at the vertex; the vertex is comparatively narrow and deeply excavated with vertical sides in *Cerdistus xanthocerus* or only moderately excavated in the type of genus and with sloping sides. The ocellarium is comparatively large, of moderate height, bearing a pair of small bristles across the middle and a pair behind the ocelli and occasionally with 1 or 2 additional pairs of fine hairs, the length rather variable. Anterior eye facets enlarged.

Thorax: The thorax is everywhere pubescent; the mesonotum is comparatively high in contrast to its length. Pile of mesonotum composed of numerous, fine, backwardly curved bristly hairs on the anteromedial portion; acrostical elements are not differentiated; dorsocentral elements are differentiated only weakly before the suture, where there may be 1 or 2 pairs and there are 3 or 4 pairs of long, strong dorsocentral bristles behind the suture. Humerus with fine, long pile. The following complement of lateral, long, stout bristles present; 2 notopleural with a shorter, more slender posthumeral element, 1 supraalar, 1 postsupraalar, 1 or 2 postalar and usually a single pair of scutellar bristles but sometimes with 2 pairs. Scutellum only moderately thickened, convex with distinct impressed rim; the disc is pubescent with a few fine hairs or in *Cerdistus pallidus* it bears numerous, long, stiff, bristly hairs curved forward. Propleuron posteriorly and ventrally with abundant, long pile. Pronotum with 3 or 4 pairs of fine bristles. Mesopleuron and the sternopleuron, except anteriorly, without pile. There are a few short hairs along the dorsal edge of the mesopleuron, 2 or 3 short hairs on the pteropleuron and 2 or 3 on the middle of the dorsal portion of the sternopleuron. On the posthypopleuron there are 1 to 4 long, slender bristles and usually at least 1 rather stout bristle and usually with additional long hairs; in *Cerdistus xanthocerus* bristles are absent and there are only 1 or 2 fine, short hairs. Metapleuron in the type of genus with 4 long, slender bristles, in the others with 10 or more; in *Cerdistus xanthocerus* with only 2 bristles, together with some longer hairs; in *Cerdistus pallidus* with 8 and also with a conspicuous tuft of long, stiff pile on the pteropleuron and sternopleuron. Metanotal slopes with a tuft of long, stiff hairs; lateral metasternum with pile, ventral metasternum long pilose, the postmetacoxal area pubescent and membranous. Tegula pubescent only; squama with multiple fringe.

Legs: The legs rather densely appressed, short setate dorsally and laterally; all the femora thickened, and the anterior four femora more so than the hind pair. In the type of genus the following complement of bristles is present: on the hind femur 2 lateral near the middle, 1 dorsolateral on the outer fifth, 1 apical and 1 subapical dorsomedial bristle, 5 ventrolateral, and 5 or 6 ventromedial bristles. The hind tibia has 3 dorsal, 1 dorsomedial, and 2 ventrolateral on the distal half. Middle femur with a long, stout, anterior bristle just beyond the middle and 3 anteroventral and 4 slender ventral bristles on the basal half. This tibia bears 3 fine dorsal, 2 anterodorsal, and 2 long, stout, curved, oblique, anteroventral bristles, besides 2 posterior and 2 long, posteroventral bristles. Anterior femur with a ventral fringe of 7 exceptionally long, slender bristles or bristly hairs and some additional long pile; its tibia has 1 dorsal at the base, 2 posterodorsal at the middle and beyond, and 2 exceptionally long, rather slender posteroventral bristles, 1 at the middle and 1 on the outer fourth. All tarsi end in slender, sharp, apically curved claws, long pulvilli, and moderately stout empodium.

Wings: The marginal cell is closed with a rather short stalk; subcostal cell narrow, the wing not expanded anteriorly and only gently rippled. The anterior branch of the third vein ends very close to but above the wing apex; the posterior branch ends beyond the wing apex a distance 3 or 4 times greater than the distance of the anterior branch from the apex. First posterior cell slightly narrowed in the middle; second posterior cell only gently swollen anterobasally; fourth posterior cell closed and stalked, rather long, gently convex anteriorly and distally. The lower end vein of the discal cell is pulled far toward the base; alula rather large, the ambient vein complete; the middle end vein of the second basal cell is short. In *Cerdistus anonymus* the second posterior cell is very strongly widened anterobasally; in *Cerdistus xanthocerus* the anterior branch of the third vein is strongly sigmoid and the second submarginal cell is very greatly widened at the base.

Abdomen: The abdomen is subcylindrical, rather strongly tapered in the female, less so in the male. Pile of the abdomen rather scanty, fine, setate and subappressed, with a little longer stiff hairs laterally on the first 2 or 3 tergites. First tergite with 2 or 3 pairs of slender bristles, the lateral postmargins of second and third tergites with 3 or 4 pairs of prominent bristles; remaining tergites with 1 or 2 such bristles. In the male are seven tergites dorsally; the sixth is two-thirds as long as the fifth; the seventh a fourth as long as the sixth and the eighth is visible only as a narrow lip laterally in the type of genus. In *Cerdistus xanthocerus* the seventh tergite is rather long, three-fourths as long as the sixth, and the eighth dorsally is about one-sixth as long as the seventh. Female with 7 tergites, the seventh is three-fourths as long as the sixth. Male terminalia moderately large, not rotate; the dorsal proctiger elongate and tending to be rather strongly arched outwardly, leaving a curled opening from the dorsal aspect; aedeagus without prongs. Female terminalia moderately elongate and quite strongly compressed laterally on the eighth, ninth and to some extent on the tenth tergites; the eighth segment is conically expanded only quite near the base and dorsally; in *Cerdistus pallidus* the eighth segment is cylindrical. First sternite without pile, the remainder with long, slender hairs, or sometimes with weak, posterior bristles.

Verrall (1909) proposed the name *Paritamus* for section B of Loew's original treatment of *Itamus* Loew. Verrall separated these from *Neoitamus* Osten Sacken on the following characters:

Face less narrow with only the upper quarter bare;
Upper occipital bristles not strongly proclinate but gently curved, or nearly straight;
Third antennal segment but little tapering and not thinned at apex as in *Neoitamus*;
Medial mesonotal stripes with tiny bristles;
Male terminalia conspicuously large;
Ovipositor composed only of eighth and remaining segments but otherwise similar to *Neoitamus.*

I can not find that Verrall in his text associated any certain species with *Paritamus*, but in his list of species of the Palaearctic region, given as an appendix, he assigns here the following species: *Paritamus geniculatus*, *globifer*, *acanthodes*, and *macrophthalmus*. Engel (1927, p. 98) associates *Cerdistus geniculatus* with *Paritamus* Verrall without recognizing it. I therefore, place *Paritamus* under *Cerdistus* Loew. The last three species included by Verrall will now be found under *Machimus* Loew, where they were assigned by Engel.

Distribution: Nearctic: *Cerdistus albicomus* Hine (1909); *auricomus* Hine (1909); *lepidus* Hine (1909); *montanus* Hine (1909); *piceus* Hine (1909); *rubicundus* Hine (1909); *willistoni* Hine (1909) [=*angustifrons* Williston (1893) not Loew (*Antiphrisson*)].

Neotropical: *Cerdistus anonymus* Williston (1901); *dolichomerus* Williston (1901); *humilis* Bellardi (1861); *melanocerus* Williston (1901); *xanthocerus* Williston (1901).

Palaearctic: *Cerdistus alpinus* Meigen (1820) [=*melanopus* Meigen (1820)]; *cervinus* Loew (1856) [=*cretaceus* Becker (1913)]; *debilis* Becker (1923); *denticulatus* Loew (1849); *desertorum* Efflatoun (1934); *dimidiata* Macquart (1838); ?*elegans* Bigot (1888); *erythrurus* Meigen (1820) [=*dalmatinus* Strobl (1893), *nigripes* Strobl (1893), *tenuis* Macquart (1834)], *erythrurus albispinus* Palm (1876); *flavimystaceus* Macquart (1849) [=*albiseta* Becker (1915)]; *flavipyga* Becker (1923); *geniculatus* Meigen (1820); *heleni* Efflatoun (1934); *indifferens* Becker (1923); *jubatus* Becker (1923); *junctus* Becker (1923); *lativentris* Pandelle (1905); *manni* Schiner (1867); *osiris* Wiedemann (1828); *pallidus* Efflatoun (1927); *sareptae* Becker (1923); *tenellus* Becker (1923); *zelleri*

Schiner (1862) [=*erythrurus* Loew (1849) not Meigen].

Oriental: *Cerdistus laetus* Becker (1925).

Australian: *Cerdistus acutangularis* Macquart (1847); *armatus* Macquart (1846) [=*antilco* Walker (1849), *elicatus* Walker (1851)]; *caliginosus* White (1914) [=*australis* Ricardo (1918)]; *claripes* White (1917); *coediceus* Walker 1849); *cognatus* Macquart (1849) [=*neoclaripes* Hardy (1921)]; *cygnus* Dakin and Fordham (1922); *flavicinctus* White (1914); *fraternus* Macquart (1846) [=*vulgatus* White (1914)]; *fuscipennis* Macquart (1838) [=*asiloides* Macquart (1849), *constrictus* Hardy (1926)]; *gibbonsi* Ricardo (1918); *graminis* White (1914); *lividus* White (1917); *margitis* Walker (1849); *maricus* Walker (1851); *obumbratus* Walker (1851); *prostratus* Hardy (1935); *rusticanoides* Hardy (1926); *rusticanus* White (1917); *separatus* Hardy (1935); *setosus* Hardy (1920); *sidneyensis* Schiner (1868); *varifemoratus* Macquart (1849); [=*volaticus* White (1917)]; *varimystacens* Macquart (1849) [=*conformis* Hardy (1926)]; *vittipes* Macquart (1847) [=*brunneus* White (1914)].

Beling (1875, 1882) treats the immature stages of *Cerdistus geniculatus*.

Subgenus *Neocerdistus* Hardy

FIGURES 327, 796, 1489, 1498

Neocerdistus Hardy, Proc. Linnaean Soc. New South Wales, vol. 51, p. 646, 1926. Type of subgenus: *Asilus acutangularis* Macquart, 1847, by original designation.

Small asilids which, like *Cerdistus* Loew, are characterized by the facial gibbosity being more or less restricted to the lower half of the face and comparatively low and inconspicuous. From *Cerdistus* they are chiefly separated in the females by the presence of a pair of sharp, dorsal spines at the tip of the last segment in the ovipositor. It must be regarded as a weakly characterized group; similar female dorsal spines appear in one species group of the genus *Nerax*, new genus, and have not received a separate name. Length 12 to 15 mm.

Head, lateral aspect: The face has a low, gently rounded gibbosity on the lower half; the upper half is plane with the eye. Eye of medium length, or perhaps a little longer, strongly convex anteriorly, gently convex behind and recessive ventrally. The occiput is short, present throughout the length of the eye and prominent below. The pile is fine, abundant and short in the middle and rather longer ventrally, with bristles present only on the upper third; at this point there are 5 pairs of extremely weak, pale bristles, or bristly hairs. Above there are 8 pairs of moderately stout, short, black bristles. Proboscis short, widened or swollen basally only from the dorsal aspect and then only slightly. The apex is rather bluntly pointed with a few, fine, quite short hairs at the apex and numerous, long, fine hairs on the basal half; a dorsomedial ridge is prominent but confined to the middle. Palpus small, cylindrical, slightly tapered at the apex and bearing a few apical, lateral and dorsal bristly hairs. The antenna is attached at the upper third of the head and moderately long; the first segment is distinctly longer than the second; the third segment is not quite as long as the first two combined; widest subbasally and is then regularly tapered at the apex with a distinct, rather long, slender microsegment and a comparatively slender style as long as the third segment and carrying an apical spine.

Head, anterior aspect: The face at the antenna is a fifth the head width and divergent below. The lateral cheek fissures are rather deep. The face is pubescent; pile and bristles are absent on the upper half; the gibbosity bears numerous, fine bristles; in a small, triangular area just above the epistoma there is 1 row of 2 bristles and below it a row of 4 exceptionally stout bristles, which are distinctly shorter than the long, fine bristles above. Laterally the fine bristles extend along the side of the subepistoma. Front short, pollinose, with 5 or 6 slender bristles laterally; the front is very slightly divergent, convergent again at the vertex. The vertex is deeply excavated with nearly vertical sides, the ocellarium large, but of only moderate height and bearing a pair of slender bristles across the middle.

Thorax: The thorax everywhere micropubescent; the pile of the mesonotum is quite scanty, fine and bristly with a double acrostical row of such pile and with dorsocentral elements weakly developed in front of the suture and consisting of only 1 or 2 pairs; behind the suture there are 5 to 9 pairs of long, rather stout, dorsocentral bristles. Humerus with fine, long pile. The following complement of long, stout bristles is present laterally: 2 notopleural, 1 postsupraalar, 1 postalar, and 1 pair of scutellar bristles. Scutellum moderately thick and convex, appressed pubescent with a deep, basal crease and distinctly impressed marginal rim; the disc also bears some long, fine pile. Propleuron with abundant, fine, long pile laterally and ventrally and 2 pairs of slender bristles on the pronotum. The anterior sternopleuron and the dorsal sternopleuron carry a number of fine, long hairs as well as some minute, bristly hairs dorsally on the mesopleuron; pteropleuron with 2 similar hairs, posthypopleuron with 2 fine, long bristles and several long hairs. Metapleuron with a vertical row of 7 quite long, very fine bristles. Lateral metanotal slopes micropubescent only; lateral metasternum pilose, the ventral metasternum has numerous, fine, long hairs which are heavily chitinized, the postmetacoxal area is membranous and pubescent. Tegula pubescent only; squama with a scanty multiple fringe.

Legs: The anterior and middle femora are a little enlarged; the hind pair to some extent is compressed laterally. The pile of the hind femur is dense, short, appressed and setate dorsally and laterally. In the type of genus there is the following complement of bristles: 3 lateral elements on the outer half, 1 subapical dorsolateral, and 1 corresponding dorsomedial and 1 weak, apical dorsomedial, besides 7 rather long, comparatively slender, pale, ventral bristles. The hind tibia has 6 dorsal, 3 dorsolateral, 7 ventromedial, and 2 ventrolateral bristles. Middle femur with 1 long, stout anteroventral bristle just beyond the middle, a similar, stout, anterior element at the apical third and 1 posterodorsal apical bristle. This tibia bears rather long, stout bristles, 3 posterodorsal beginning near the basal third, and on the outer half 2 anterodorsal and 2 ventral bristles. Anterior femur with a row of slender, bristly hairs posteroventrally; its tibia has a pair of dorsal bristles near the base and 4 or 5 posterodorsal, besides 2 fine, and 1 subapical, quite stout, posteroventral bristle. Anterior basitarsus slender, slightly longer than the next two segments; all tarsi end in sharp, slender claws, well developed pulvilli and unusually short, basally stout empodium.

Wings: The wings are slender; the marginal cell is closed with a long stalk; the subcostal cell is quite narrowed but the costal margin is not expanded and the marginal cell is comparatively narrow through the middle. The anterior branch of the third vein is almost straight, except at the immediate base; it ends a short distance before the wing apex; the posterior branch ends a distance three times greater behind the wing apex. First posterior cell slightly narrowed in the middle; the second posterior cell is only gently sloping and not arched basally; this cell is expanded as much posteriorly as anteriorly, widely open but narrowed distally. Fourth posterior cell closed with a long stalk; the cell is long and very slightly convex on all sides. Anal cell closed, the second basal cell ends in two veins which fuse a short distance beyond; the lower end vein of the discal cell is very strongly pulled back toward the base of the wing. Alula rather short; ambient vein complete.

Abdomen: The abdomen is strongly tapered; seven tergites present in the female, the seventh almost as long as the sixth. Pile of the abdomen short, fine, appressed and setate with longer, erect pile laterally on the first three tergites. First tergite moderately protuberant, with only fine, bristly hairs laterally or a few, extremely weak bristles. Lateral postmargins of second to fourth segments with several pairs of weak bristles. First sternite without pile, second and third with long, fine pile; the remainder with rather short setae and sometimes 1 or 2 weak, slender bristles. Female terminalia moderately elongate, rather strongly compressed laterally. The eighth tergite is strongly flattened on top and gently tapered towards the apex, but all the lateral portion is very strongly compressed; ninth and tenth tergites short, the latter with a pair of short, dorsal, basally stout, laterally flattened, sharp, spinous processes which have a deep notch between.

Genus *Eremisca* Zinovjeva

FIGURES 2506, 2516, 2528, 2529

Eremisca Zinovjeva, Ent. Oboz., vol. 35, pt. 1, p. 196, 1956. Type of genus. *Eremisca vernalis* Zinovjeva, by present designation.

I give below Zinovjeva's description in translation:

Slender flies of moderate size and yellowish gray silvery coloring characteristic for desert insects. Length 14 to 16 mm.

Head narrower than thorax. Frons narrow, comes slightly beyond the eye at the margin of the mouth. The frontal hump is poorly developed, relatively flat. The distance from the upper margin of the frontal hump to the base of the antennae is equal to the length of the first two segments of the antennae. The beard is of long, thick setae. The ocellar cilia along the sides of the head form bundles of hairs "side-burns". The third segment of the antennae is shorter than the first two segments taken together. The dorso-central setae (2 or 3) come behind the transverse suture.

The alar and notopleural setae are developed. The whole scutellum is densely covered with setae and hairs. The coxae of the legs, especially of the fore, are covered with long hairs. The femur on the inner surface bears a number of setae. The claws are long. All the legs are covered with short, closely-fitting hairs and long setae. The wing venation is usual (fig. 1, *Eremisca vernalis* Zin., sp. n., wing.).

The abdomen is longer than the wings; there are long setae along the hind margin of the middle tergites. The abdomen is covered with pollen and hairs. The ovipositor is cylindrical, is not constrained from the sides and at the apex is elongated into two points. The coxites of the hypopygium are narrow, elongated, rounded on the end.

Head, thorax, legs and abdomen covered with white hairs and setae.

The described genus stands close to the genus *Cerdistus* Loew; postscutellum with dusty hairs, tergites of abdomen along the hind margin with setae, dorsocentral setae continue beyond the cross suture of the mesonotum, and the frontal suture is weakly developed. However, it differs sharply from *Cerdistus* in the structure of the ovipositor, which is not constrained from the sides and on the apex is elongated into two points, and also in the presence of numerous, long, protruding hairs on the scutellum (fig. 2, *E. vernalis* Zinovjeva, female).

Distribution: Palaearctic: *Eremisca vernalis* Zinovjeva (1956); *autumnalis* Zinovjeva (1956).

Cnodalomyia, new genus

FIGURES 787, 1546, 1555, 2195, 2271

Type of genus *Cnodalomyia obtusa*, new species.

Medium size flies related to *Cerdistus* Loew. The second submarginal cell is quite slender and narrow at the base, widened entirely in front of the third vein; the anterior branch of the third vein is nearly straight, ending slightly before the wing apex; the posterior branch is straight for most of its length, rather strongly curved backward; the male terminalia are exceptionally large and wide with a gap between the forceps and gonopod as in *Astochia* Becker. The aedeagus and penis guides are remarkably large, arched into a short loop ventrally and curved backard. Length 19 mm.

Head, lateral aspect: The head is of medium length, the face nearly plane with the eye on the upper half, very slightly produced on the lower part with the cheeks prominent. The occiput is well developed sublaterally and the lower sixth of the eye is recessive anteroventrally. Lower half of occiput with rather dense, fine hairs and at the bottom of the eye a tuft of still longer, bristly hairs. Bristles begin at the middle of the head and are curved downward; there are 7 dorsal bristles which are most stout and straight in partly doubled row. Proboscis stout and a little swollen basally. The apex bears bristly hairs and a preapical crease. The swollen base ventrally has numerous, long, bristly hairs. Palpus cylindrical with fine, bristly hairs. The antenna is attached at the upper third of the head, the first segment is 2½ times as long as wide and a little longer than the second segment. Both bear numerous, long, fine setae dorsally and numerous, slender bristles and setae below. The third segment is as long as the first two, widest near the base and uniformly tapered above and below to the narrow apex, which bears a short, distinct microsegment and a stout bristle-tipped style approximately as long as the third segment.

Head, anterior aspect: The width of the head is 1½ times the height. The face below the antenna is about a sixth the width of the head and strongly widened below. The whole surface is densely, appressed micropubescent, continued over the subepistoma. The upper half of the face has no pile, the lower half has a large triangle of long bristles; upper part of triangle with 5 or 6 moderately stout, black bristles and on each side 6 quite small, black bristles. Middle and lower portion of the mystax consists of 10 exceptionally stout, pale bristles and on each side of the subepistoma 3 or 4 long bristles and a few bristly hairs. Front small, pollinose, slightly wider than the upper face, with a subocular row of 4 moderately long, stout bristles and 2 setae and dorsally nearer the eye a row of 3 setae. Vertex rather strongly narrowed but little excavated, with slanting sides. The ocellarium is large but low and bears 1 or 2 pairs of short bristles or long setae between the ocelli and 2 pairs behind.

Thorax: The thorax is rather high, the mesonotum is comparatively high and convex. Surface pollinose with scanty setae and a few fine hairs posteriorly above the wing. There is a double row of acrostical setae expanded to 4 rows anteriorly; dorsocentral bristles begin behind the suture and consist of 4 or 5 short, slender elements and 2 long, stout bristles. Lateral bristles long and stout. There are 2 notopleural bristles, 1 supraalar bristle with a weaker element beyond, sometimes absent; and a long bristle above the postalar callosity, besides 1 or sometimes 2 on the postalar callosity. Scutellar margin without bristles. The margin and the disc bear a few, quite minute, very finely attenuate setae. The scutellum is moderately thick, pollinose with deeply impressed rim. The metanotal callosity creased behind and bearing a patch of bristly pile. Pleuron densely pollinose with dorsally on the mesopleuron only a few short, appressed, fine hairs in which are mixed 3 long but very fine hairs. Metapleuron with a vertical row, partly doubled, of 7 or 8 long, slender bristles and some long, fine hairs. There is a vertical row of similar fine hairs on the hypopleuron and scattered hairs dorsally on the sternopleuron. Postmetacoxal area membranous; prosternum fully dissociated.

Legs: All the femora are stout, the hind pair is gradually and slightly swollen from the base towards the apex; the anterior femur is swollen chiefly on the basal half and the middle femur swollen throughout its length. The legs bear dense, fine appressed hairs that are continued on the ventral surfaces and absent or reduced only narrowly on the medial surface of the middle femur and posterior surface of the anterior femur. Bristles are stout and sharp. The hind femur bears 3 dorsolateral bristles, 2 of them lie on the outer half and there is an additional bristle laterally at the apex and 6 ventrolateral bristles, the last element also at the apex. This femur has a prominent apical and also a subapical dorsomedial bristle and 6 ventral bristles, besides 7 medial bristles. Posterior tibia comparatively slender and quite long, a little swollen distally; it bears 3 prominent dorsolateral bristles, 1 of which is at the base and matched by a dorsomedial bristle; there are 2 prominent ventrolateral bristles on the outer half but no ventral elements. Hind basitarsus stout, as long as the next three segments. Middle femur with a very stout, anterior bristle at the basal and apical third, 4 anteroventral bristles and ventrally on the basal half 1 long and 9 short, spikelike bristles. Middle tibia with a single anterodorsal bristle on the outer third, a smaller posterodorsal bristle in the middle, 1 posterior distal bristle, a longer, posteroventral bristle, and 2 or 3 prominent, stout, long, ventral bristles.

Anterior femur with 1 moderately long, anterior apical bristle and beside it 1 short bristle; the small element is sometimes lacking. Anterior tibia rather short. It bears a stout bristle anterodorsally near the base, a smaller one posterodorsally at the outer third, and it has 3 long, stout, pale, ventrolateral bristles and a few long, ventral bristly hairs. Anterior basitarsus comparatively short, as long as the next 2 segments. Claws stout, moderately sharp, curved chiefly at the apex; pulvillus long, wide; empodium long and bladelike.

Wings: The wings are brownish hyaline; marginal cell closed, narrowed at apex, with a long stalk; it is widened in the middle and the subcostal cell is narrow through the middle. The third vein forks opposite the end of the discal cell; the second submarginal cell is narrow at the base, almost entirely widened anteriorly, with upper and lower branches of the third vein mostly straight. Upper branch ends slightly above apex, lower branch curves rather far backward. Fourth posterior cell closed with a long stalk. Anal cell closed and stalked, posterior crossvein absent. Alula large; ambient vein complete. Whole wing villose except parts of basal and central cells.

Abdomen: The abdomen is subcylindrical and pollinose, with scanty, fine, appressed pile dorsally; the lateral pile is more or less appressed and scarcely longer. Sides of first and second tergite with some scattered, long hairs. First tergite laterally with 4 or 5 long, stout bristles; the second tergite posteriorly and laterally but set quite far from the apical margin has 4 stout, prominent bristles, and the third to fifth tergites similarly each have 3; remaining tergites with weaker bristles. Males with 8 tergites, the eighth being a fourth as long as the seventh but of uniform length throughout. Male terminalia unusually large and broad, a little longer than wide; the superior forceps exceptionally wide from dorsal aspect, notched apically and separated from the prominent but short gonopod by a wide gap. The hypandrium is short but remarkably wide, extending around the sides laterally. Ventral surface widely open with exceptionally stout, curved laminate aedeagus and penis guides, divided apically and curved upward.

Distribution: Neotropical: *Cnodalomyia obtusa*, new species.

Cnodalomyia obtusa, new species

Length 18 mm. Male. Head: The head is black in ground color, face densely, pale, brownish yellow micropubescent and of a darker color on the dorsal half; that portion on the eye margin linearly is paler and separated by a crease. Whole cheeks with similar pubescence, slightly darker. Front with pale, brownish yellow pollen, more scanty in the middle and also extended over the low ocellarium. The deep pocket of the postvertex has pale pollen and the whole occiput likewise. There appears to be a large, round, black spot on the upper occiput wanting in pollen, which becomes visible in a different light. Upper half of face without pile. Gibbosity extremely low, the face almost plane in profile. There are 2 pairs of stout, rather long, black bristles set medially at the middle of the face on the upper border of the low gibbosity and lying outside these are 6 or 7 much shorter, slender, black bristles. Still lower in the middle of the face is a vertical cluster of 6 to 8 much stouter, quite long, yellowish white bristles which sometimes include 1 or 2 black elements. Also on the lateral sides of the long, subepistoma are several pale, stout bristles, among which may be included 1 or 2 black elements. Pile of the occiput medially long and scattered and fine with at the bottom of the eye a tuft of long, bristly, yellow pile. Bristles begin at the middle of the occiput above and consist of about 12 pairs, the lower elements turned downward, the upper elements rather stout.

Antenna with the first two segments light orange-brown, the extreme base of the third segment similarly colored, the remainder of the long third segment dark, reddish brown. The third segment has a very short microsegment, followed by a thick, blackish style no longer than the third segment. Sides of front with a partly doubled row along the eye margin, containing 9 bristles, at least 3 of which are long and stout. The low ocellar tubercle contains 3 pairs of quite short, anteriorly directed black bristles. Proboscis black, the palpus small and black with yellow hairs.

Thorax: The mesonotum is quite opaque black for the most part, and with a very wide, medial stripe, which is rounded anteriorly; it begins at the anterior margin and reaches the scutellum, but is attenuate and narrowed. From the anterior aspect it is fused with an equally wide, lateral, opaque, black stripe, extending to the middle of the humerus. In some lights the transverse suture is grey pollinose and from a posterior view the medial and lateral black stripes are narrowly separated by grey pollen and the whole posterior aspect of the mesonotum and scutellum tends to be covered with pale grey pollen and in places with a little reddish pollen. There is some reddish pollen in front of each postcallus, immediately behind the suture above the wing, narrowly on the notopleuron and extensively on the humerus, the dorsal part of propleuron, and upper part of mesopleuron. Remainder of pleuron densely, greyish yellow pollinose. Haltere reddish brown, the stalk paler. Scutellum comparatively thinned apically with impressed rim and only a few minute, black and white setae on the margin, a few others on the disc. Metanotal callosities with yellowish, bristly pile. Metapleuron with a vertical row of 6 long, stout bristles and 1 or 2 more slender ones. Propleuron widely dissociated. Lateral bristles of the mesonotum stout and long. There are 2 notopleuron, 1 supraalar, 1 suprapostalar, 1 or sometimes 2 postalar, 2 long, stout pairs of postdorsocentral bristles, 1 shorter, postdorsocentral bristle. Mesonotum with scattered, appressed, spinous, black setae anteriorly and 2 or 3 differentiated rows of acrostical setae. Only the lateral portion of the propleuron bears bristles where there is a vertical row of 4 bristles placed anteriorly.

Legs: All the femora are stout, a little narrowed at base and apex, especially towards the base of the hind femur. Hind tibia a little swollen apically. The legs are uniformly, light brownish orange, the last tarsal segment a little darker. The apices of all the tibia with a lateral, blackish spot; the anterior 4 femora with a sharply demarcated, anterior, black stripe; the hind femur with a similar, lateral, black stripe. Pile rather abundant, flat appressed, coarse and setate, golden on the hind femur, golden anteriorly on the anterior femur, golden anteriorly and posteriorly on the middle femur and black dorsally on the first four femora, black dorsally and laterally on the hind tibia and most of the anterior and middle tibiae. Bristles black and stout, with the exception of the posterior bristles on the anterior and middle tibia, which are reddish yellow. Hind femur with 3 prominent, dorsolateral, 7 ventrolateral, 2 of which are at the apex, 2 black, dorsomedial near the apex, 6 yellow ventromedial, and 5 yellow, ventral bristles. Bristles of hind tibia consist of 2 black ventrolateral elements on the outer half, 2 prominent, basal, dorsal, black bristles side by side, and 2 long, stout, reddish bristles laterally at basal and apical third. Middle femur with a ventral row of 7 short but quite stout, black bristles and 1 long, red bristle in the same row at the base. It also has 2 prominent, anterior, black bristles, 4 or 5 anteroventral, and 1 posterior subapical, black bristle. Anterior femur with only a fringe of long, yellowish, bristly pile ventrally on the basal half, its tibia with a few, dorsal, black bristles and some longer, posterior, yellow bristles. Bristles of the tarsi black. Claws black but red at the base; the reddish brown pulvilli are long.

Wings: The wings are tinged with very pale brown, the third vein forks opposite the end of the discal cell and basally it is expanded entirely in front of the third vein. Second posterior cell scarcely widened at the base, stalk of the fourth posterior cell long, of the anal cell short, base of axillary lobe subrectangular. Alula large. Marginal cell strongly widened, mostly at the expense of the subcostal cell.

Abdomen: The abdomen is subcylindrical and not very wide, it is brownish black in ground color, densely covered with pale, yellowish brown pollen, which becomes conspicuously lighter along the lateral margin. Sides of first tergite with 5 stout, quite long bristles, subposterior margins of the second segment on the whole outer third with a row of 4 quite long, stout bristles. They are set at a considerable distance from the posterior margin. Third segment with 2 or 3 similar bristles, fourth segment with 3 or 4, fifth segment with the same number, sixth and seventh segments with the same number, but somewhat more slender bristles. Sternites with scattered, stiffened hairs and weak bristles posteriorly on the last three sternites. The terminalia are large and swollen, with extremely prominent, long, broad, dorsally flattened, superior forceps, doubly notched at the apex, the outer notch bearing some spinous, medially directed black bristles and on its outer margin 5 quite long, yellowish bristles. Gonopod prominent, slightly divergent from the forceps with a tuft of lateral, very stout, long, mixed, black and yellow bristles, 3 of each, besides other shorter, bristly hairs. Hypandrium or ninth sternite quite wide but rather short. The penis guides are exceptionally prominent, forming high, laterally compressed, shining red, laterally furrowed, curved, flangelike processes, strongly curved upward and slightly backward, leaving a circular opening from the lateral profile. The terminalia are chiefly shining black, the apices of the forceps and gonopods obscurely reddish.

Type: Male, Alto Itatiaia, Rio de Janeiro, altitude 2000 meters, March 1914, collected by R. C. Shannon and W. L. Gomes. Type in the U.S. National Museum.

Genus *Pediophoneus* Lynch Arribálzaga

Pediophoneus Lynch Arribálzaga, Anal. Soc. Scient. Argentina, vol. 15, p. 87, 1883. Type of genus: Genus without type.

I give below Lynch Arribálzaga's description in translation:

> Body moderately slender. Head of the usual form and densely pollinose. Face appreciably broadened toward the mouth and entirely without tubercle or gibbosity. Face not quite plane, narrowly margined along the eye below the antenna. Face not at all hairy; mystax composed of slight bristles in a row or band about the oral margin and with 2 other elements higher and much shorter. Front on both sides slightly setate. Vertex a little narrower than the upper part of front and along the margins with setate hairs. Ocellar tubercle prominent but without large bristles, but with a covering of some setae. Ocelli clearly distinct. Occiput sparsely hairy and with a series of macrochaetae behind the eyes; with a loose, scanty, soft beard on the remainder of occiput. Antenna slender, of the usual length, with 2 basal, cylindrical segments not quite equal in length and sparsely setate; with the third segment slender, equal to the combined length of the other 2 segments and of the usual form; style of 1 segment, bare, subequal in length. Proboscis medium size, slender and straight. Palpus as usual; sparingly pilose.
>
> Thorax as in related genera. Pronotum armed in front with a series of bristles and scarcely hairy or pilose. Mesonotum scarcely or slightly short setate, with lines of a few macrochaetae. Scutellum very scarcely or slightly short setate, with lines of a few macrochaetae. Scutellum very scarcely and very minutely hairy, without bristles and lightly impressed on the posterior margin. Metanotal callosity laterally shaggy with some hairs in the middle. Pleuron not hairy; densely pollinose like the remainder of the thorax. Trichostichal elements (?metapleural bristles) in 1 row, composed of a few setae.
>
> Legs in length and thickness as usual and scarcely or briefly setate and armed with a few macrochaetae. Metatarsus not dilated or shortened. Wings of the customary form, with 2 cubital cells, with divergent branches arising from the formation of the fork; one ends above the wing apex, the other below; frequently at the base more or less angulate and scarcely or slightly appendiculate, at the same time (?other individuals) rounded and entirely without appendage. Transverse median nerve (crossvein) placed at the middle of the discoidal cell. Fourth posterior cell with sessile appendix; subcostal cell (cellulae subcostalis) sufficiently elongate and distinctly curved in from below. Abdomen linear, slightly longer than the wings, twice as long as the thorax; abdomen narrowed and depressed and slightly convex above, the venter more or less plane. Abdomen very short and sparingly setate and pilose, the segments dorsally armed on both sides with some preincisural macrochaetae.
>
> Copulatory organ of abdominal segments 6 and 7 equaling the length (?of preabdomen). At the apex it is somewhat thicker or more robust, slightly hairy, with the valves of the forceps convex, hollowed out or excavated within, contiguous at the base.

Apparently Lynch Arribálzaga was unable to complete his Asilidae of Argentina, and a species for this genus was never published. So far, no one has recognized an asilid from Argentina which fits this generic description. Probably such material will become available at some future time.

Nyssoprosopa, new genus

Figures 770, 1418, 1427, 1442, 1451, 2251, 2279, 2381, 2416

Type of genus: *Nyssoprosopa pollinosa*, new species.

Medium size flies with the head and face short. From an anterior aspect the head is nearly circular. Abdominal tergites with subposterior sublateral bristles instead of lateral bristles. Metanotum without pile. The base of the second submarginal cell arises entirely above the third vein, and the discal cell is strongly occluded by the anteriorly convex fourth posterior cell. This genus appears related to *Lecania* Macquart in many respects.

The venation is similar but there is no spur vein at the base of the second submarginal cell. The male terminalia are rather similar; there is no ventral protuberance from the eighth sternite. Female terminalia rather like *Neolophonotus* Engel; the ninth and tenth segments are quite high, with the ninth compressed only on the posterior half; female terminalia quite like *Labromyia* Hull, but differing sharply in the character of the face and of the second submarginal cell. Length 16 mm.

Head, lateral aspect: The face is only moderately produced as a low, moundlike gibbosity on the lower half of the face, leaving the upper half plane with the eye; the antenna arises from a low, brief elevation. The subepistoma is large and high, and strongly oblique; as a result the upper angle of the facial protuberance is about the same as the lower angle. The occiput is short but prominent near the vertex; it is poorly developed below; the cheeks are extensive. Bristles are confined to the dorsal half of the occiput and consist of 10 to 12 stout, yellowish elements; the lowermost bristles are larger and strongly turned downward. The occipital pile is long, fine and yellow, but rather scanty. The proboscis is robust, bluntly pointed, with stiff pile above and below at the apex, a tuft of long pile in the middle ventrally and long, fine hairs ventrally again at the base. The palpus is small, quite slender and cylindrical and bears quite long hairs which at the apex are a little more stiffened. The antenna is attached at a point just above the middle of the eye and, style excepted, is distinctly shorter than the head. The first two segments are stout, and the first segment is nearly twice as long as the second; both bear long setae above and below. The third segment is barely longer than the first segment, or not longer; it is a little more narrow, tapered apically, bears a distinct, short microsegment, and a long, rather stout style; the style is longer than the second and third antennal segments.

Head, anterior aspect: The head is nearly circular. The face beneath the antenna is more than a fifth and less than a fourth of the head width; it is slightly widened below. The face is densely, brownish yellow pollinose. The upper, plane portion is without pile and the entire upper half of the facial elevation bears only 1 pair of fine, long hairs. The lower half of the elevation bears, across the epistoma, transversely, at the highest point, a row of quite long and exceptionally stout bristles, which is composed of 5 pairs with 3 other equally stout, long bristles situated medially above this row; lateral margins of subepistoma with fine, long hairs which are shorter; all bristles of the mystax brownish yellow except a group of 4 hairs in the middle below. The front is small; it bears an ocular row of 7 long, curled setae or bristly hairs, and a subocular row of 5 slightly longer bristly hairs. Vertex rather deeply excavated with steeply slanted sides; ocellarium small and low, with on each side 3 or 4 short, minute, black bristles. Anterior eye facets strongly enlarged with a sharp, impressed line of division.

Thorax: The mesonotum is moderately high and equally convex anteriorly and posteriorly. It bears a double row of acrostical elements anteriorly, without a bare stripe submedially; the whole remaining area is sparsely short, black setate, the setae nearly erect. Humerus with 18 similarly short setae. All lateral mesonotal bristles are black, long and stout and consist of: 2 notopleural, 1 supraalar located quite posteriorly, 1 still longer postalar bristle but no scutellar bristles. The scutellum is densely pale, ochre pollinose. Disc of scutellum with about 40 to 50 short, erect, yellow setae. Lateral metasternum with some long hairs; postmetacoxal area membranous.

Legs: The hind femur distinctly and slightly thickened through the middle, narrow at base and apex and rather densely appressed, short, blackish setate on all sides and with quite stout, rather long, black, tuberculate bristles. There are 3 dorsolateral bristles, the last element at the outer sixth and forming part of a subapical, dorsal pair; and 1 member at the base may be yellow. The anteroventral margin has 5, the basal one yellow. Apex dorsomedially with 1; subapex medially with 1; also there are 2 yellow bristles medially on the basal half. The hind tibia is relatively slender toward the base, a little wider distally, with similarly appressed pile and quite stout, rather long, chiefly, black bristles. These consist of 2 dorsolateral, 1 before and 1 after the middle; 1 ventrolateral at the outer fifth; 1 dorsal at the extreme base; and 2 weak yellow dorsal bristles beyond the middle. The apex with 2 ventral, 1 lateral, 2 dorsal, and 1 medial bristle. A medial mat of appressed pile covers the outer two-thirds. The middle femur is distinctly thickened through the middle and bears 3 stout, long, black, appressed bristles on the anterior margins, 3 on the ventral anterior margin beginning at the basal third, 1 at the posterior apex, and 1 weak, anterior counterpart. The middle tibia has rather short, stout bristles, 3 dorsally, 3 posteriorly, and 2 ventral bristles, long and stout.

The anterior femur is thickened mostly toward the base and bears at the apex 2 weak bristles dorsally and 2 anteriorly; the ventral margin on the basal half has 9 or 10 exceptionally long, straight, erect, slender, ventral, golden bristles. Anterior tibia with 1 dorsal, basal, 2 posterodorsal beyond the middle, rather short, and 1 very strong, long posterior at the outer fifth, besides 2 long, slender, posteroventral bristles before and after the middle. The basitarsus is rather short, nearly as long as the next two segments with extremely long, stout bristles posteriorly at base and apex and 2 almost equally long or stouter elements anteriorly at the apex. Claws long, rather blunt, without being distinctly obtuse; they are strongly curved only near the apex. The pulvilli reach the end of claw and are subtruncate; empodium long, and much thickened and stout at base.

Wings: The wings are slender. The subcostal cell is narrow but the marginal cell is of nearly average width, but bears an exceptionally long stalk. The marginal and submarginal cells are strongly rippled. The second submarginal cell takes origin quite at the end of the discal cell, and at its base, entirely above the third vein; this cell is undulate along the middle, the 2 branches of the third vein end an equal distance above and below the wing apex. Anterior crossvein slightly oblique and enters the discal cell at or before the middle. The lower end vein of the discal cell is not long but is strongly drawn backward; second posterior cell very little widened at the base. The fourth posterior cell is closed with a long stalk, its anterior border is exceptionally convex and occludes the discal cell; the second basal cell ends in 2 veins fused beyond. Anal cell closed and stalked. Alula wide; ambient vein complete. There is an indention at the end of the anal cell.

Abdomen: The abdomen is subcylindrical and a little flattened on the first two tergites; the first tergite is about a third as long as second and has a subbasal depression; each wing of the depression is slightly oblique and joins a medial depression. The sides of this tergite are a little protuberant and bear very sparse, fine pile. There is a posterior row of 3 quite strong, reddish bristles. The subposterior margins laterally on the second tergite have a row of widely spaced, very strong, quite long, appressed, reddish yellow bristles which extend well on to the next segment and cover at least the outer third. The third and fourth tergites each with 4 bristles; the fifth to eighth tergites each have 1 or 2 somewhat shorter, weaker bristles. Sternites without bristles. The male terminalia are large and conspicuous and not rotate. The superior forceps and gonopod tend to be tilted upward and more or less divergent. The hypandrium is large. Proctiger large, oval, flat, protruding only a little way above the superior forceps. Female terminalia as long as or longer than the preceding two segments and quite strongly compressed laterally, especially on the apical half.

Distribution: Neotropical: *Nyssoprosopa pollinosa*, new species.

Nyssoprosopa pollinosa, new species

Length 16 mm. Male, female. Head: The face is densely brownish yellow pollinose; mystax light brownish yellow except a group of 4 hairs in the lower middle face and 2 lateral pairs also above the lower anterior edge of face. Front and occiput also densely pale, brownish yellow pollinose. Ocellarium with 3 or 4 quite short, minute, black bristles behind the posterior ocellus; anterior ocellus directed to the front. Anterior eye facets strongly enlarged with a sharp, impressed line of division curving from the sides of the front downward to the middle of the eye. Upper occiput with 10 to 12 moderately stout, rather short yellow bristles; the bristles of the lower part of occiput are rather strongly curved downward. All occipital pile pale yellow. The second segment and base of third segment is light reddish brown, the style light brown; all antennal pile black.

Thorax: The anterior half of mesonotum and the humerus are golden brown pollinose; the lateral postmesonotum rather light ochreous pollinose and the middle of mesonotum with an almost black, pollinose, medial vitta, strikingly contrasted and, if viewed anteriorly, almost divided by golden brown pollen, which becomes of wider proportions anteriorly; pleuron also pale brownish ochreous pollinose. Pronotum with 2 pairs of moderately stout, long, yellow bristles; metanotal slopes without pile or bristles but covered with pollen. Disc of scutellum with 40 to 50 short, erect, yellow setae.

Legs: The femora and tibiae and all tarsi, except last segment, rather light reddish to yellowish brown; the tibiae more yellow brown, the femora more reddish; last tarsal segment with apical half dark reddish brown; all coxae pale ochre pollinose with brownish yellow bristles. Legs with black setae on the hind femora on all sides, and with black, tuberculate bristles; the last dorsal bristle at the apex and 1 bristle at the base may be yellow; bristles of hind tibia chiefly black but there are 2 weak, dorsal, yellow bristles beyond the middle. Middle femur with the bristles black except the ventral margin, where on the basal half are 9 or 10 exceptionally long, straight, erect, slender, golden bristles.

Wings: The marginal and submarginal cells strongly rippled; marginal cell expanded at the expense of the subcostal cell.

Abdomen: The sides of the first tergite with 3 strong, posterior, reddish bristles; second tergite with a row of widely spaced, long, appressed, reddish bristles extending well onto the next segment. Third and fourth tergites bear 4 such bristles, the fifth to eighth each have 1 or 2 similar bristles; sternites without bristles.

Type. Male; allotype female, from Paraguay, collected by Fiebrig. Types in the Zoologische Staatssammlung, Munich, and studied through the kind permission of the Director, Dr. Walter Forster.

Genus *Hippomachus* Engel

FIGURES 326, 723, 1455, 1465, 2179, 2273

Trichonotus Loew, Öfvers. Svenska. Vet-Akad. Förhandl., vol. 14, p. 362, 365, 1858. Type of genus: *Trichonotus pegasus* Loew, 1858, by monotypy. Preoccupied Pisces, 1801; Coleoptera, 1842.

Hippomachus Engel, Ann. Transvaal Mus., Pretoria, vol. 12, p. 148, 1927. Change of name.

Medium size flies readily recognized by the high, anteriorly pinched mesonotum, which bears a dense, medial mane, together with the extremely dense, vertical, medial band of pile of two lengths upon the face. The antenna is exceptionally slender, with a finely attenuate third segment, a microsegment and short, fine pile. In addition, in the male, the costa, subcosta, and the marginal and submarginal cells are strongly expanded and rippled. Length 15 to 20 mm.

Head, lateral aspect: The face is rather short and gently convex, receding below. The eye is moderately convex anteriorly but straight in profile posteriorly, although at the immediate vertex it is a little convex, and on the lower fourth it is strongly, obliquely recessive anteroventrally. The occiput is short, equally developed above and below; its pile exceptionally fine, moderately abundant in the middle, very dense ventrally and likewise rather dense and longer dorsally behind the vertex; bristles begin at the upper third and are long, but exceptionally slender; there are 10 pairs, the upper elements strongly proclinate. The proboscis is unusually slender and of moderate length and subcylindrical, directed chiefly downward with a few, fine hairs at the apex and considerable long, fine, ventral pile in the middle on the basal half as well as a sublateral tuft which is subbasal in position. Palpus slender, cylindrical, with fine apical and dorsal bristles. The antenna is attached at the upper fourth of the head, unusually slender, and moderately elongate. The first segment is a little longer than the second, the second rather attenuate basally. The third segment is as long as the basal segments combined but not as wide at its base as the second segment; it is rather strongly attenuate, the apex quite narrow. A long microsegment is present and a short, rather slender style with apical bristle; microsegment and style together are a little more than two-thirds as long as the third segment. First segment ventrally with numerous, exceptionally long, slender bristles or bristly hairs continued laterally and dorsally. Second segment ventrally with 2 pairs of equally long, more distinct bristles and some shorter, bristly pile.

Head, anterior aspect: The face below the antenna is a fourth the head width, expanded below. Subepistomal area moderately large, nearly plane, bare and oblique. The face is densely pubescent and bears an exceedingly wide, dense, vertical band of pile beginning immediately beneath the antenna, the dorsal part consists chiefly of long, curved, stiff, black hairs with some shorter, white, lateral hairs and also some longer, white lateral hairs. In the middle and ventrally and laterally along the sides of the subepistoma the pile is equally dense, chiefly whitish and longer than the dorsal, black pile. The face is narrowly apilose laterally. Front exceptionally short, the ocellarium set forward and low; front pollinose, with a lateral tuft of 12 to 15 long, slender, bristly hairs. Vertex deeply excavated, more so posteriorly with vertical sides; ocellarium large but low, bearing across the middle 7 or 8 pairs of long, quite slender hairs and behind the ocelli at least 3 pairs. Anterior eye facets only moderately enlarged.

Thorax: The thorax is minutely pubescent, almost pollinose in character. Mesonotum strongly convex anteriorly and posteriorly, distinctly compressed obliquely and laterally on the anterior third. Pile of mesonotum abundant but exceptionally fine, moderately long and erect; there is in the acrostical area a dense, medial mane of long, somewhat posteriorly curved, slender black bristles and bristly hairs; it begins on the anterior margin, extends back within a short distance of the scutellum and becomes still more dense; there are fine, long, bristly hairs in the dorsocentral line. Humerus with numerous, fine hairs. In the type of genus the stout, long, lateral bristles consist of 3 notopleural in an oblique row, 1 postsupraalar, and 1 postalar, with other long, but quite fine hairs; the scutellar margin has only the most slender bristles or bristly hairs, of which there are 8 long pairs. The disc is densely beset with long, bristly, pale pile, changing in the middle basally to black, and becoming also more bristly. Scutellum thick, convex, pubescent, with distinctly impressed rim. Propleuron densely long, fine pilose, continued in a wide band on the pronotum; bristles absent. Mesopleuron dorsally with long, fine pile, sternopleuron with long pile anteriorly and in the middle dorsally. Pteropleuron with a dense, dorsal tuft of exceptionally long pile. Posthypopleuron with numerous, bristly hairs that become crinkled distally. Metapleuron with a wide band of long pile; metanotal slopes micropubescent only; postlateral metasternum with some long pile but the ventral metasternum densely covered with exceedingly long, fine pile; postmetacoxal area membranous; tegula and basalare pubescent only; squama with multiple fringe.

Legs: All the femora are a little swollen, especially the first four; these strongly swollen towards base. The dorsal pile is quite fine, moderately long and subappressed. In the type of genus the stout bristles present on the hind femur consist of 7 ventrolateral with 4 additional ventromedial on the basal fifth and 1 or 2 ventromedial subapically; in addition there are at least 5 strong, lateral bristles, and the apex has 2 dorsomedial, the subapex 1 dorsolateral bristle. Hind tibia with 4 dorsomedial, 3 or 4 dorsolateral, 2 ventrolateral on the outer half, and 2 short, ventromedial near the apex; apex with 1 minute dorsomedial, 1 dorsolateral, 1 ventrolateral, 3 ventral, and 1 medial bristle. Middle femur with 5 stout, anterior bristles, 3 of them on the basal third, with 5 stout anteroventral on the basal third, and 2 additional bristles beyond the middle. Middle tibia as well as the anterior and posterior margins of the femur with numerous, long, fine hairs; tibia with 2 strong anterodorsal on the distal half, 3 or 4 quite weak posterodorsal, 3 or 4 posteroventral, and 3 strong anteroventral bristles. Anterior femur with long, dense, fine pile posteriorly and ventrally; its tibia has 5 or 6 weak, short bristles posterodorsally and 5 or 6 long, attenuate posteroventral bristles. Claws slender, sharp, strongly bent at the apex; pulvilli long and spatulate; the empodium short, about half as long as the claw, a little thickened at the base.

Wings: In the wings opposite the anterior crossvein the costa is thickened and together with the subcostal, marginal and submarginal cells strongly expanded and rippled. Marginal cell closed with a moderate stalk; the anterior branch of the third vein ends just above and the posterior branch ends just behind wing apex. The anterior crossvein enters the discal cell at the distal fourth. First 2 posterior cells widely open; fourth posterior cell closed with a long stalk, the end vein sinuous. The lower end vein of the discal cell is drawn back almost as far as the radial medial crossvein, not quite parallel with the wing margin. Anal cell closed with a short stalk; second basal cell ends with two veins and shortly fused beyond. Alula moderately large; ambient vein complete; whole wing vitreous and hyaline.

Abdomen: The abdomen is subcylindrical, slightly tapered and distinctly more narrow than the mesonotum. The first tergite is a little swollen laterally. Pile of abdomen short, fine and more or less appressed, except along the sides and lateral margins of the first two tergites, where it is especially long and quite fine. Sides of first tergite with fine pile only; tergal bristles absent. Eight tergites present in the male but the eighth present only laterally where, however, it is rather long, still longer ventrally. Male terminalia moderately elongate, not rotate, often directed upward. The superior forceps largest and longest, appressed and a little narrowed apically. Hypandrium quite short, undivided. Sternites with only fine, long pile, conspicuously abundant on the second and third with some fine pile laterally on the first sternite. Female unavailable.

Distribution: Ethiopian: *Hippomachus pegasus* Loew (1858).

Genus *Megadrillus* Bigot

FIGURES 340, 725, 1453, 1463, 2233, 2348, 2349

Megadrillus Bigot, Ann. Soc. Ent. France, ser. 3, vol. 5, p. 545, 1857. Type of genus: *Lophonotus heteroneurus* Macquart, 1838, by original designation.

Rather small flies with tapered abdomen and strong tergal and sternal bristles. The anterior femur is distinctly swollen. The anterior dorsocentral bristles are long and prominent and the acrostical bristles likewise. The face is shortly produced throughout its height and very gently convex, with a medial band of stiff, long pile. The face is very similar to *Neolophonotus* Engel to which it is related. It is readily separated from its allies by the first posterior cell which is closed with a rather long stalk. Length 12 to 15 mm.

Head, lateral aspect: The face is moderately produced and on the whole rather short; it is a little more prominent below, due to the recession of the eye, but is gently convex and somewhat receding ventrally. The eye is long, very convex anteriorly, a little narrowed below and strongly, anteroventrally recessive on the lower fourth. The remainder of the posterior profile is slightly convex and becomes strongly convex near the vertex. Pile of occiput rather dense, long, and comparatively fine on the lower half, especially long posteriorly; it is replaced by bristles beginning at the middle of the head, where there tend to be 5 or 6 pale pairs of bristles in at least 2 species. The dorsal bristles are black and stouter; at first short, they become quite long and strongly proclinate behind the upper eye corners. There are 10 to 12 pairs of black bristles; 5 are long, 3 or 4 of medial length and the lowermost elements short. The occiput is moderately thick throughout. The proboscis is comparatively short, rather slender and cylindrical with a low, distinct, medial ridge and a short swelling at the basal third; apex with some stiff, bristly hairs on each side above and below. The base bears a few long hairs ventrolaterally; the proboscis is directed chiefly downward. Palpus comparatively short, cylindrical with 5 or 6 stiff, long bristles apically.

The antenna is attached just above the middle of the head and is slender but rather short; the first two segments are nearly equal in length. The third segment is barely longer than the combined length of the first two, slightly compressed laterally; of nearly uniform width, it may be a little widened subdistally. There is a distinct though short microsegment followed by a short, thick style with apical spine; the style is only half as long as the third segment; the first segment bears ventrally 5 or 6 exceptionally stout, long, black bristles, longer than the third segment. Second segment ventrally with at least 5 similarly long, stout, apically thick bristles; both segments with 5 or 6 unusally long, stout, dorsal setae.

Head, anterior aspect: The head is nearly circular; the face below the antenna is about a fourth the head width, wider below. Subepistomal area small, short, very deeply concave and strongly oblique, pubescent only anteriorly in the middle. The face bears numerous, densely beset, long, pale, bristly hairs or extremely slender bristles, occupying a wide band down the middle of the face. They begin immediately beneath the antenna, are curled downward, the lower elements straight, reaching to the apex of the proboscis. The lateral margins of the epistoma have numerous, pale or dark bristles which may be distinctly more stout than the facial elements. Front short, pollinose with 4 or 5 rather long, slender bristles behind the eye margin. Vertex only moderately excavated on each side of the ocellarium but deeply behind; ocellarium of medium size and height with but 2 pairs of moderately slender, black bristles in the middle and 2 or 3 additional pairs behind the ocelli. Anterior eye facets only slightly enlarged.

Thorax: The thorax is pollinose and strongly abrupt anteriorly. Pile of mesonotum scanty, fine and bristly, pale and dark, somewhat more abundant over the postalar and with a dense, narrow, longitudinal band of pile in the middle of the mesonotum on the posterior half, pale, long and bristly. On the anterior half is a double, irregular row of exceptionally stout, long, acrostical elements and beginning a short distance behind this row there are 4 or 5 pairs of equally long, stout, dorsocentral bristles with 3 or 4 similar elements posteriorly. Humerus pollinose but apilose. Lateral bristles quite exceptionally long and stout and consist of 3 notopleural, 2 supraalar, 1 postalar, and 2 pairs of very stout scutellar bristles with 1 or 2 pairs of additional bristles set marginally on the convex portion which overlies the distinct impressed rim; remainder of lower rim and the sides of the disc with a tuft of long, coarse, bristly pile. Scutellum thick, convex, with impressed rim. Propleuron with abundant, long, coarse pile; pronotum with 4 or 5 stout, long bristles; posterodorsal pronotum with coarse pile only. Posterior and anterior upper corners of the mesopleuron, the anterior and posterodorsal sternopleuron with a tuft of stiff hairs. Pteropleuron with 4 or 5 long, bristly hairs and 7 or 8 shorter elements. Posthypopleuron with 2 exceptionally long, stout, pale bristles and other bristly hairs. Metapleuron with a vertical row of 6 or 7 long, stout bristles. Lateral slopes of the metanotum bullose, not creased and pubescent only. Lateral and ventral metasternum with moderately abundant, stiff pile; postmetacoxal area membranous; tegula with setae; posterior basalare with 3 or 4 short, pale bristles or bristly hairs ventrally; squama with multiple fringe.

Legs: The hind femur slightly thickened; the anterior and middle femora are distinctly swollen, especially along the middle. All the femora have rather short, coarse, oppressed, pale pile; ventral surface of the hind femur with moderately abundant, fine, erect hairs on the medial half only. The hind femur bears 4 long, dorsolateral bristles, a fifth bristle at the apex and the submedial element with an additional, dorsal and dorsomedial counterpart; ventrally there are 4 shorter, stout bristles; medial margin with 2 or 3 slender bristles, ventral margin with about 10 long, bristly hairs. Hind tibia with exceptionally prominent, stout, long bristles; 4 dorsomedial, 4 dorsolateral, 1 lateral near the base, 3 ventrolateral; the apex with 1 dorsolateral, 1 lateral, 1 ventrolateral, 3 ventral, 1 medial, and 1 dorsomedial. Middle femur with 3 anterior, besides at the apex 2 or 3 slender bristles anteriorly and 2 posterodorsally; also 4 or 5 anteroventral bristles. Middle tibia with 3 anterodorsal bristles, 4 posterodorsal, 2 longer stout posteroventral on the outer half. Anterior femur with 1 anterior in the middle which may be absent, 2 or 3 rather slender dorsal in the middle which may be increased to 5 or more and the anterior tibia has rather shorter bristles consisting of 7 anterodorsal, 6 posterodorsal, but 2 exceptionally long, basally stout posteroventral bristles before and after the middle and with long, bristly pile posteriorly and posteroventrally.

Middle coxa dorsolaterally with 1 exceptionally long, very stout, black bristle, or with 2 or 3 pale bristles. Hind coxa with 2 or 3 weak bristles, the trochanters tend to have at least 1 very stout bristle. Anterior coxa with a dense brush of bristly pile and about 10 slender bristles. The tarsi and basitarsi are moderately elongate and slender. Tarsi end in sharp claws, long, spatulate pulvilli and long, slender empodium.

Wings: The marginal cell is closed with a short stalk; subcostal cell narrow, wing not expanded; the anterior branch of the third vein is sinuous, ending well above the apex and not a great distance from the end of the subcostal cell; the posterior branch ends far behind the wing apex. First posterior cell closed with a long stalk; base of second posterior cell exceptionally expanded anteriorly being nearly 2½ times the distal width of the discal cell. Lower end vein of the discal cell drawn far back towards the base, not quite paralleling the wing margin. Fourth posterior cell closed with a long stalk, slightly convex on all sides. Second basal cell ends in 3 veins, the middle vein almost eliminated. Alula large, ambient vein complete; the anal cell closed and stalked.

Abdomen: The abdomen is subcylindrical, distinctly tapered, the sides of the first tergite moderately protuberant. Pile of the abdomen comparatively abundant, coarse, moderately long, tending to be flat appressed but erect on the first two tergites and more or less erect laterally. Sides of first tergite with 5 or 6 bristles and the posterolateral margins of remaining tergites with very distinct bristles; middle, lateral margin of the second tergite tends to have at least 2 bristles. There are 2 or 3 bristles on the postmargins of the tergites; sternites near their posterior margins with several distinct bristles. First sternite apilose. Eight tergites in the male, the eighth a third as long as the seventh, becoming shorter laterally. Female with eight tergites, the eighth possibly incorporated with the ovipositor; the ninth and tenth segments quite short; the eighth is convex dorsally; the ninth sternite is rugose, compressed ventrally with a long, medial fissure. Male terminalia only moderately large, not rotate, the superior forceps broad, rather flattened, with a blunt, apical process. Gonopod short, obtuse and convex; hypandrium very short; aedeagus simple.

Distribution: Ethiopian: *Megadrillus elachipterus* Loew (1858); *heteroneurus* Macquart (1838).

Country unknown: *Megadrillus brevipennis* Macquart (1838).

Genus *Synolcus* Loew

FIGURES 354, 724, 1459, 1469, 2300, 2304

Synolcus Loew, Öfvers. Svenska Vet.-Akad. Förhandl., vol. 14, p. 361, 1858. Type of genus: *Asilus dubius* Macquart, 1846. Designated by Loew, 1860.

Flies of medium size and dark color. Like all members of the *Neolophonotus* Engel group the metanotal callosities are without pile. The face has no gibbosity but is very slightly arched beginning below the antenna and continued to the epistoma. There are a few, long, strong bristles on the upper face and several pairs of quite stout, long elements in a row above the epistoma. Lower occiput well developed. Third antennal segment several times longer than wide, with microsegment and short style. Most of these characters separate the genus from the Oriental *Clephydroneura* Becker; both genera have the fourth posterior cell bulging anteriorly. Length 20 to 25 mm.

Head, lateral aspect: The face is moderately produced and visible throughout its entire extent, but without ventral protuberance. The anterior profile is slightly convex. The eyes are recessed below beginning only at the lower sixth. The anterior profile is convex and the posterior profile is nearly plane through the middle. The occiput is rather prominent throughout the entire length, except at the immediate vertex, where it is obliterated. The pile of the occiput is very scanty above and becomes rather long and abundant at the middle and below. Bristles begin at the middle and consist of 13 pairs; the upper 3 or 4 pairs are stouter and strongly proclinate. The proboscis is subcylindrical, swollen only at the immediate base, the apex wide, obtuse, very slightly tapered above and below and with stiff, apical pile; the base bears a few, long, stiff hairs; proboscis directed obliquely forward. Palpus of one segment with a fused, basal trace of an additional segment; it is cylindrical and robust, and bears several, long, stout, apical bristles. The antenna is attached at the upper third of the head. The first two segments are slightly elongate, of nearly equal length but the second slightly shorter. The third segment is three-fourths of the combined length of the first two segments; it is slender, bears a short microsegment followed by a short, thick style. This style, together with microsegment, is as long as the third segment, and bears a minute spine apically. First and second segments with short setae dorsally and long, oblique bristles and setae below; at least 1 bristle at the apex of the second segment is stout; third segment with 2 or 3 setae dorsally.

Head, anterior aspect: Face below the antenna a fifth the head width and divergent below. Subepistoma small, strongly oblique, plane and pubescent. Face pubescent with stiff, short pile down the middle beginning at the base of the antenna and bearing 4 pairs of stout, long bristles across the epistomal margin with 2 pairs of bristles lying immediately above these; in the middle on the lower half of the face there are several additional, weaker bristles. Front short, slightly divergent, the vertex more strongly convergent; sides of front with 4 moderately stout bristles. Vertex deeply excavated with nearly vertical sides. Ocellarium low with 3 pairs of short, slender bristles. Eyes with central facets enlarged.

Thorax: The mesonotum and pleuron pollinose. The pile of the mesonotum is unusually scanty. Acrostical elements absent. The medial third of the mesonotum is without pile. Dorsocentral elements short, few and scattered but beginning at the middle and extending back to the scutellum there are 7 long, stout elements in this series. Humerus with a few hairs. Stout, long, lateral bristles are present and consist of 2 notopleural, 1 postsupraalar, 1 suprapostalar, with sometimes additional smaller bristles, 2 to 3 postalar and 1 pair of scutellar bristles set rather close together. Scutellum thick and convex, with impressed rim, with 3 or 4 pairs of setae on the margin and 12 erect, fine setae on each side of the disc; the disc pollinose. Pleuron with abundant, stiff pile, the pronotum with 2 pairs of weak bristles. Mesopleuron with a few, scattered, fine hairs dorsally, posteriorly and on anterior process. Sternopleuron above with 2 or 3 fine hairs. Posthypopleuron with a row of 6 distinct, moderately long bristles. Metapleuron with a row of 7 or 8 longer bristles. Upper pteropleuron with a tuft of pile. Metanotal slopes micropubescent only. Lateral and ventral metasternum with numerous, long, fine hairs. Postmetacoxal area membranous and pollinose; tegula pubescent only; squama with a fringe in several rows.

Legs: The femora are stout, the anterior and middle pairs slightly thickened toward the base, all pairs with appressed, numerous, short setae above; bristles where present quite stout and moderately long. Ventral surfaces with scanty pile. The hind femur bears 2 or 3 medial and 3 dorsolateral bristles at apex, and some distance back from apex 1 dorsomedial and 1 dorsolateral bristle, the latter forms part of a row of 4 bristles. Ventrolateral margin with 6 stout bristles; ventromedial margin with 4 longer, stout bristles and up to 3 bristles medially at the base. The hind tibia bears moderately long bristles, 3 dorsal, 3 lateral, and 3 ventrolateral on the outer half; apex with 2 dorsal, 2 lateral, 2 medial, and 4 ventral bristles; medial surface with brush of setae. Middle femur with 3 anterior, 5 anteroventral and 3 posterior bristles near the apex. This tibia bears 3 weak posterodorsal, 1 stout dorsal near the apex, 5 chiefly weak posteroventral, 4 stout, anteroventral bristles. Anterior femur with bristles restricted to the basal half of the ventral surface, where there are 3 to 6 long bristles present; its tibia has 3 short dorsal, 4 long posteroventral, quite stout and otherwise with only short setae. Tibia end in long pulvilli and stout empodium three-fourths as long as pulvilli; claws moderately sharp.

Wings: The wings are slender and hyaline. Marginal cell closed and stalked. The anterior branch of the third vein ends barely before apex. Fourth posterior cell closed and stalked and characteristically strongly convex anteriorly, reducing the width of discal cell to half. Second basal cell ends in 2 veins; anal cell closed; alula large, the ambient vein complete. The anterior cells are rippled without expansion.

Abdomen: The abdomen is comparatively slender and tapered, as long as the wings and slightly longer. First tergite slightly swollen laterally and rigid. Pile of abdomen scanty, fine, appressed and setate. First five or six tergites with distinct bristles which are rather stout on the first tergites. First tergite with 2 pairs, subposterior margin of second tergite with 2 or 3 stout pairs; third tergite with 3 weaker bristles;

fourth and fifth tergites with 2 bristles. Sternites with scattered pile only. The female seventh tergite is strongly compressed laterally, perhaps forming part of the ovipositor. Female terminalia strongly compressed laterally; the eighth tergite is elongate, considerably longer than the seventh and bears in the middle below 2 or 3 pairs of weak bristles.

Distribution: Ethiopian: *Synolcus acrobaptus* Wiedemann (1828); *aurulentus* Engel (1929); *dubius* Macquart (1846); *griseus* Engel (1927); *signatus* Loew (1858); *tenuiventris* Loew (1858).

Genus *Hobbyus* Bromley

FIGURES 339, 714, 1454, 1464, 2255, 2297, 2493, 2497

Merogymnus Hobby, Ent. Monthly Mag., vol. 69, p. 111, 1933. Type of genus: *Merogymnus nigroflavipes* Hobby, 1933, by original designation. Preoccupied Pisces, 1908.

Hobbyus Bromley, Durban Mus. Novitates, no. 4, p. 21, 1952. Change of name.

Flies with tapered abdomen and high mesonotum. The face is moderately prominent and gently arched and convex, beginning at the antenna. The tergites bear distinct bristles, the sternites with none. Costa expanded anteriorly. The rectangular anterior crossvein and unexpanded base of the second posterior cell separates it from its allies. Length 17 mm.

Head, lateral aspect: The face is moderately long and gently convex; the gibbosity begins at the base of the antenna. The eye is moderately convex anteriorly, strongly recessive on the lower fourth. The occiput is short and more or less equally developed throughout, following the eye ventrally. Pile of occiput dense, fine, rather long and brownish yellow along the middle and the ventral half; on the upper third are some slender, bristly hairs which become stronger dorsally but never stout; the dorsal elements are strongly proclinate and all occipital pile and bristles yellow. The proboscis is rather slender and elongate with parallel sides from the lateral aspect; it is slightly tapered to the apex from the dorsal aspect; the apex is bluntly pointed; the base and the sides on the basal two-thirds bear numerous, long, fine, yellow hairs. The proboscis extends a little beyond the face and is thrust obliquely downward; it has no dorsal ridge. Palpus cylindrical, rather short and with only stiff hairs apically. The antenna is attached at the upper forth of the head; the first and second segments are somewhat lengthened and equal in length. The third segment is only a little longer than the second and bears a distinct, short microsegment followed by a somewhat flattened style which is approximately as long as the third segment or a little shorter.

Head, anterior aspect: The face below the antenna is more than a fourth the head width and scarcely widened below. Subepistomal area is long, oblique, pubescent, very slightly concave with a medial ridge. Face densely pollinose with numerous, long, black bristles or bristly hairs on the upper half; it bears still longer, nearly straight, somewhat stouter, brownish yellow bristles on the lower half. There are bristly hairs along the lateral subepistomal margin; whole face, except the lower cheeks, pollinose. Sides of front with numerous, fine, long, bristly hairs; vertex moderately excavated, the ocellarium comparatively low with 2 pairs of long, slender, bristly hairs between the ocelli, 2 pairs between the posterior ocelli and 1 pair behind. Anterior eye facets only very slightly enlarged.

Thorax: There is present an irregular row of fine, comparatively short, acrostical bristles. A few of the elements on the extreme anterior margin are slightly longer and they are poorly separated from the similar, bristly, lateral pile. There is a comparatively narrow, bare space beside them. Dorsocentral bristles are long and slender, there are 4 long, moderately stout notopleural bristles, no supraalar bristles, 1 postsupraalar, 1 suprapostalar, 2 postalar, and 1 pair of scutellar bristles. Scutellum thick, convex, with distinctly impressed rim. No lateral pronotal bristles. There is a fine pile on the pteropleuron, upper mesopleuron, scantily on the posterior sternopleuron but more abundant anteriorly. There are a few, long bristles vertically on the posthypopleuron, a band of slender, bristly hairs on the metapleuron; the lateral slopes of the metanotum lack pile and are pubescent only, creased medially; lateral and ventral metasternum pilose; postmetacoxal area membranous; tegula pubescent only.

Legs: All the femora are stout; the anterior and middle pairs are somewhat swollen towards the base; all bear dense, fine, setate pile dorsally and on the hind pair laterally. Ventral surfaces of anterior and middle femora with dense, long, coarse, pale pile, especially abundant towards the base; the middle femur has a moderately dense, ventral, medial fringe of shorter, pale pile. On the hind femur the bristles are stout and pale and consist of 7 ventrolateral, 5 dorsolateral (or more nearly lateral, as they are just above the middle), 1 subapical dorsomedial, and 1 quite at the apex and 6 ventromedial. The hind tibia has fine, short pile ventrally and poorly developed, appressed, fine setae ventrally with bristles which consists of 3 dorsomedial, 3 dorsolateral, 3 ventrolateral bristles which begin at the middle. The tibiae are rather slender. The middle femur has 2 stout, anterior bristles, 3 similar anteroventral, 2 shorter bristles posterodorsally at the apex. Middle tibia with only very slender bristles or bristly hairs posterodorsally and posteriorly but with 3 long, strong bristles ventrally on the outer half. Anterior femur without bristles; its tibia is similar to the middle tibia and bears 5 short, posterodorsal elements at the middle and beyond and 2 rather long, slender, ventral bristles and 3 still more slender, posterior bristles on the outer half. Claws long, slender, sharp, chiefly bent at the apex; pulvilli well developed; empodium about half as long as the claw and bristlelike.

Wings: The marginal cell is very strongly widened, and together with the submarginal cell strongly rippled. The subcostal cell is quite narrow throughout its length, the costa itself is gently and slightly expanded at the middle of the wing as compared with the plane of the costa on the basal half. Ambient vein complete.

Abdomen: The abdomen is cylindroid and rather strongly tapered; sides of first tergite are protuberant. The first three tergites laterally bear some long, fine hairs; the posterior margins near the lateral borders of the first through the seventh tergites each bear 2 rather stout bristles. Eight tergites are present in the male, but the eighth is almost completely eliminated medially though comparatively wide laterally. Laterally it is at least a third as long as the seventh tergite. The superior forceps elongate, broadly and obtusely rounded apically and somewhat flattened laterally. The hypandrium is longer than the gonopod and somewhat indentate medially and ventrally and bears a dense tuft of matted, convergent, bristly pile.

Distribution: Ethiopian: *Hobbyus minor* Bromley (1947); *nigroflavipes* Hobby (1933).

Genus *Dasophrys* Loew

FIGURES 369, 739, 767, 1452, 1462, 1471, 1481, 2293, 2337

Dasophrys Loew, Öfvers. Svenska Vet.-Akad. Förhandl., vol. 14, pp. 362, 366, 1858. Type of genus: *Dasophrys longibarbus* Loew, 1858, by monotypy.

Medium size flies characterized by the dense, vertical band of facial bristles, the proclinate hairs of the upper occiput, the exceptionally high, arched mesonotum which bears prominent acrostical and dorsolateral hairs and bristles, besides the strongly expanded costa, marginal and submarginal cells in the male. Length 20 mm.

Head, lateral aspect: The face is rather prominent but gently rounded beginning at the base of the antenna, therefore without differentiated protuberance. The eye is rather strongly recessive below, strongly convex anteriorly and wider above, the greater middle portion of the posterior profile plane. The occiput is moderately thick, extending to the vertex; the pile is dense, abundant and fine and begins at the middle of the head. Below it is matted, long and obscures the ground color; upper part of occiput with a wide band of fine, bristly pile and near the vertex some long, slender, weak bristles which are very strongly proclinate and reach to the anterior eye margin. The proboscis is unusually short and stout basally. The antenna is attached at upper third of the head and comparatively elongate and slender. The second segment is two-thirds as long as the first and these segments combined are a little longer than the third segment. The third segment is unusually slender, slightly compressed laterally and bears a short subsegment which is a fourth as long as the style. The style itself, except towards the apex, is of equal thickness with the microsegment; apex of style with a minute spine. The first segment bears 4 or 5 long, slender bristles laterally and with 3 or 4 long, stout bristles below; second segment distally swollen with 4 long, stout setae above and 3 stout, longer bristles below.

Head, anterior aspect: The face below the antenna is a fifth the head width and strongly divergent below. Subepistomal area short, and oblique. Face pubescent, especially laterally, bearing a wide, medial, vertical band of exceptionally long, numerous, somewhat curved bristles which are chiefly directed forward. Lateral margins of the epistoma with weak bristles. Front quite short; on each side it bears 8 to 12 very long, slender, bristly hairs, slightly divergent; the vertex is a little more convergent, deeply excavated with nearly vertical sides. Ocellarium large, containing 4 or 5 pairs of very fine, bristly hairs. Eyes with anterior facets enlarged.

Thorax: The thorax is densely appressed micropubescent on each lateral fourth; the medial part of the mesonotum is pollinose. The mesonotal pile consists of a few, scattered, fine, long, nearly erect setae laterally and a triple row of slender, long, backwardly directed acrostical bristles, followed by a narrow bare strip. There is a single anterior row of fine, moderately long, dorsolateral bristles which near the middle becomes a double row of stout, tuberculate bristles increasing in length to a level corresponding to the wings, at which point they are exceptionally long, the length decreasing posteriorly toward the scutellum. The medial prescutellar area has numerous, long, coarse, pale hairs and this area is pubescent. Humerus with numerous, long, fine hairs, the stout, long, lateral bristles present consist of 2 notopleural, 2 or 3 postsupraalar, 2 postalar, and 3 pairs of scutellar bristles. Scutellum thick, convex, pubescent, with long and more or less tangled matted pile which is chiefly erect. Propleuron with fine, matted pile below, more scattered pile above; pronotum with 3 pairs of stout bristles; upper mesopleuron with numerous, fine, long, erect bristly pile and similar pile on the upper sternopleuron; the pteropleuron and posthypopleuron bear numerous, long, slender bristles. Metapleuron with a vertical band of many similar, quite long bristles. Metanotal slopes without pile, pubescent only. The lateral and ventral metasternum bear abundant, long, fine pile; postmetacoxal area membranous; tegula pubescent only; squama with a multiple fringe.

Legs: All the femora are stout and distinctly though moderately thickened. The hind femur is appressed setate above; on the lateral, ventral and medial surfaces it bears rather numerous, extremely long, fine, bristly hairs; the long, stout bristles consist of 1 at apex dorsomedially. A transverse group of 3 is situated dorsally a short distance back from the apex; the outer member forms a group of 2 dorsolateral elements, the second member is placed at the middle. The ventrolateral margin has 6 especially stout, long, apically blunt bristles; medially there are 2 stout, distal and 1 basal bristle. The hind tibia bears 3 dorsolateral, 3 or 4 dorsomedial and 3 especially stout, long, ventrolateral bristles; apical circlet of 8 bristles. The middle femur bears a long, stout, posterior subapical bristle and an anteroventral row of 4 long, stout bristles; middle tibia with 2 slender distal dorsal, 2 stout distal posterior, and 3 especially long, stout, curved, ventral bristles beginning at the middle, and in addition with an anterior and posterior fringe of 7 or 8 exceptionally long, slender, bristly hairs. The anterior femur is without bristles but has an abundant ventral fringe of extremely long, bristly hairs; its tibia has 5 exceptionally long, stout, posteroventral bristles and equally long, fine, bristly hairs; dorsally there are only 3 slender bristles beyond the middle. Tarsus ends in large, long pulvilli, long empodium, and a long sharp claw bent at apex.

Wings: The wings are broad and subhyaline, sometimes tinged with brown. The costa, marginal and submarginal cells are expanded and strongly rippled and in some species the male wing in the middle is carried forward in a conspicuous hump. Marginal cell closed with short stalk; the anterior branch of the third vein ends just above wing apex; the first posterior cell is not noticeably constricted, but the discal cell is strongly constricted in the middle by the anterior convexity of the fourth posterior cell; the fourth posterior cell is closed and stalked; anal cell closed; second basal cell ends with a short middle vein or none; alula large, ambient vein complete.

Abdomen: The abdomen is distinctly subcylindrical, slightly tapered and comparatively narrow; the first tergite is strongly swollen and convex laterally. Seven tergites are present in the male with the eighth appearing as an obtuse, triangular lateral process on either side. Pile of abdomen scanty but fine, more or less erect, setate and fine and much longer laterally and on the sternites. The posterior submargins of the tergites bear several, quite long, stiff hairs; the upper 2 of these elements might be described as extremely weak bristles. Male terminalia large, elongate, conspicuous; the superior forceps directed obliquely upward.

Distribution: Ethiopian: *Dasophrys hypselopterus* Engel (1929); *nigricans* Wiedemann (1821); *paron* Walker (1849 [=*longibarbus* Loew (1858)]; *personatus* Schiner (1868).

Genus *Neodasophrys* Ricardo

FIGURES 338, 764, 1457, 1460, 1467, 1470, 2283, 2342, 2377

Neodasophrys Ricardo, Ann. Mag. Nat. Hist., ser. 9, vol. 5, p. 440, 1920. Type of genus: *Neodasophrys natalensis* Ricardo, 1920, by present designation.

Moderately large flies with tapered abdomen, very spiny legs. The face is rounded and protuberant and densely beset with bristles through the middle. The high, arched mesonotum bears numerous, rather long, acrostical and still longer dorsocentral bristles. Length 25 mm.

Head, lateral aspect: The face is prominent, except immediately beneath the antenna, where it is short; it begins to rise or extend forward and forms a well developed, gently rounded protuberance. The eye is strongly recessive anteroventrally below and the recession begins rather sharply at the middle of posterior profile; the anterior profile is strongly convex. The occiput is very extensive and thickened below, and extends undiminished to the vertex. The pile of the occiput is abundant, fine and rather long dorsally, assuming the character of weak bristles on the upper sixth and associated at the extreme upper corner of the occiput behind the eye with 5 or 6 pairs of strongly proclinate, stout bristles. The pile of the lower occiput is extremely copious, abundant and stiff and obscures the ground color. The proboscis is of moderate length, without noticeable ridge subcylindrical to subquadrate, somewhat flattened on the dorsal aspect, especially near the apex, where it is rugose and micropunctate; the base is only slightly swollen. The apex is a little tapered from below and bears some stiff, apical pile and numerous, long hairs ventrally. Palpus small, of 1 segment, bearing long, stiff hairs. The antenna is attached at the upper third of head; the first segment is nearly twice as long as the second, the third is not quite twice as long as the second and bears a moderately long microsegment, beyond which is an extremely long, thick, densely pubescent style. For most of its length the style is as wide as the microsegment and it is fully as long as the third segment, attenuate apically and at the apex bears a moderately long, stiff bristle. The first segment bears long, stiff hairs above; laterally 2 or 3 and ventrally 7 or 8 long, stiff, oblique bristles. The second segment has 3 or 4 bristles dorsally and laterally and below at the middle 2 quite long, stout and 2 weaker, shorter ones.

Head, anterior aspect: The face below the antenna is two-ninths of head width and divergent below. Subepistomal area short, small and oblique, deeply concave and pubescent. The face is pubescent, without pile but with numerous, very long, slightly curved, anteriorly directed, moderately stiff bristles which extend down the middle of the face and leave the lateral margin without bristles. These bristles extend almost to the base of the antenna, and at bottom of face they extend laterally along the sides of the epistoma where they are somewhat more slender and shorter. The front is distinctly though moderately divergent, unusually short and the vertex rather strongly convergent. Laterally there is a large, oval patch of numerous, long, stiff hairs on the sides of the front. The vertex is deeply excavated with steep sides, the ocellarium moderately large with 6 to 8 pairs of quite long, stiff hairs. Eye facets centrally enlarged and zoned.

Thorax: The mesonotum and pleuron pollinose or micropubescent and appressed, except down the middle third, which is bare. Pile of mesonotum scanty but composed of unusually long, subappressed, basally stout, finely attenuate setae. There is a double, dorsal row of acrostical elements longer and comprising distinct bristles, each row doubled anteriorly. Dorsocentral elements are also distinct, still longer; just before the middle the individual elements become extremely long and contain 9 in each row to the scutellum. In the prescutellar area is considerable, long, delicate, crinkled, opaque, white pile which becomes even more abundant and tufted on the surface of the scutellum. Humerus pilose. Stout, long, lateral bristles are present and consist of 3 notopleural, 3 postsupraalar, 1 weak suprapostalar, 3 postalar, and 3 pairs of closely set, medially remote, stout, exceptionally long scutellar bristles. Propleuron with abundant, long, fine pile and weak bristles on the pronotum. Mesopleuron with only scattered, long, fine hairs dorsally and centrally. Upper sternopleuron with 20 or more long, fine, hairs. Upper pteropleuron with a similar number; posthypopleuron with 6 to 8 long, slender bristles and with a patch of pubescence; metapleuron with about 20 moderately stout, long bristles. Slopes of the metanotum strongly bullose, pubescent only. Lateral and ventral metasternum with long pile; postmetacoxal area membranous and pubescent; posterior basalare with 2 or 3 long, crinkled hairs; tegula with 6 or 7 minute setae; squama with a multiple fringe.

Legs: All the femora are stout, pubescent or pollinose, with unusually numerous, stout spines. The middle femur and tibia have unusually heavy mats of dense, long pile posteroventrally. Hind femur bears short, appressed setae above, long scattered pile laterally and ventrally; dorsally a subapical circlet of 4 stout, long bristles; 1 single bristle dorsomedially at apex; and a lateral row containing 6 elements, the sixth forming part of the subapical circlet. Ventrolaterally there are 5 or 6 bristles. The hind tibia contains a double dorsal row of 6 or 7 elements, 5 or 6 somewhat more slender, lateral bristles, and 3 especially stout, ventrolateral bristles. Medial surface with appressed brush of setae continued on to the first two tarsal segments; apex with 2 medial, 1 dorsal, 2 lateral, and 3 or 4 ventral bristles. Middle femur with 1 stout, anterior subapical, 1 posterior at outer third, 1 anterior at basal third, and 3 or 4 anteroventral bristles. This tibia bears 4 dorsal, 1 posterior near the apex, 2 or 3 ventral on the outer half, and a dense fringe posteriorly and anteriorly of very long, slender bristles or bristly hairs. Anterior femur without bristles but with a dense, posteroventral fringe of long, bristly hairs continued posteriorly on their tibia. This tibia has 6 dorsal bristles, beginning at the basal third, and 2 or 3 long, posteroventral bristles. All tarsi end in large, truncate pulvilli, a stout, long empodium, and moderately sharp claws.

Wings: The wings are slender and subhyaline. The marginal cell is closed and stalked; the anterior branch of the third vein ends shortly above the apex; first posterior cell narrowed by the basal expansion of the second posterior cell. Fourth posterior cell closed and stalked, its closing vein convex; anal cell closed; second basal cell ends in 2 veins with a short fusion of veins beyond; lower end vein of the discal cell pulled backward until nearly parallel with the anterior margin of the cell. Alula large, ambient vein complete.

Abdomen: The abdomen is subcylindrical and attenuate, longer than the wings in the female. The first tergite is laterally swollen and ridged. Pile of abdomen scanty, short down the middle of the tergites, appressed and setate and considerably longer on the lateral third, but also more or less appressed. All the tergites bear weak bristles near their posterior margin and restricted to the lateral third. First tergite laterally with 3 or 4 stout bristles and long delicate pile. Postmargin of second tergite with 4 to 6 slender bristles, a like number on third to sixth tergites. Eight tergites present in the male. Six tergites present in the female, the seventh at least partly incorporated in the ovipositor, as well as the eighth. Both of these are greatly compressed laterally and the eighth is more than twice as long as the seventh. In the male the superior forceps are very long, relatively narrow from lateral aspect, obtusely rounded at apex with long, obliquely protruding proctiger. Gonopod exceptionally small and greatly reduced. Eighth sternite quite large, posteriorly produced, with conspicuous posteroventral, matted brush of long, coarse pile. Hypandrium hidden, if present.

Distribution: Ethiopian: *Neodasophrys androclea* Walker (1849); *hirsutus* Ricardo (1920); *natalensis* Ricardo (1920).

Genus *Dysclytus* Loew

FIGURES 320, 726, 1458, 1468, 1605, 2221, 2237, 2292

Dysclytus Loew, Öfvers. Svenska Vet.-Akad. Forhandl., vol. 14, pp. 361, 363, 1858. Type of genus: *Asilus firmatus* Walker, 1857, as *Dysclytus spurcus* Loew, 1858, by monotypy.

Rather large flies with stout, well developed bristles but reduced pile. The face is moderately produced throughout its length and gently convex as in *Neolophonotus* Engel, with bristles beginning beneath the antenna. Bristles of legs are emphasized with an especially numerous, doubled or trebled row on the ventral surfaces of the middle and hind femora. Numerous, long, dorsocentral bristles present on the posterior half of the mesonotum; the occipital bristles are not proclinate but very stout; the third antennal segment is unusually slender. Length 24 to 28 mm.

Head, lateral aspect: The face is moderately produced throughout and gently convex, the eye of moderate length, strongly convex anteriorly, nearly plane through the middle and rising above the occiput dorsally; it is strongly recessive anteroventrally on the lower fourth. The occiput is moderately thick throughout, the pile on the ventral half quite dense, long and fine, replaced by bristles at the middle; the first 4 or 5 elements are pale, with also 10 or more short, stout, rather straight, dorsal bristles on each side which are usually black. The proboscis is rather short, subcylindrical, very slightly tapered from the dorsal aspect, with a low, medial ridge; it bears numerous, dorsal, lateral and ventral stiff hairs at the apex. The proboscis is directed chiefly downward. Palpus with a crease just beyond the basal third suggesting that two segments may be involved; the outer portion is slightly offset, the basal part elbowed but the whole seemingly fused; apical piece bears numerous, lateral, dorsal and apical, bristly hairs with a single rather prominent apical bristle. The antenna is attached at the upper third of the head, rather slender and of moderate length. The first segment is as long as the second, the second comparatively slender. The third segment is no wider than the apex of the second and more narrow towards the basal third; it is attenuate apically, its length equals the combined length of the first two segments; it bears a short, distinct microsegment and a slender, bristle-tipped style which is a little longer than the third segment. First segment with 10 or 12 slender, bristly hairs laterally and ventrally, the second segment with 3 ventral bristles; both with dorsal setae.

Head, anterior aspect: The face below the antenna is about a fourth the head width and wider below. Subepistomal area moderately large, deeply concave, pubescent, oblique. The face is pubescent, apilose, the middle part has a wide band of stout bristles beginning beneath the antenna; those of the upper half are chiefly black, moderately long and strongly curled downward; those on the lower half are very stout, pale, extending to the apex of the proboscis. Lateral margins of the epistoma with numerous, slender, black bristles. Front short, pubescent, with laterally an oval patch which contains 7 long, slender, marginal bristles and 8 others above the antenna which are still longer. Vertex deeply excavated with vertical sides; ocellarium rather large, set quite forward anteriorly, bearing 1 pair of slender, black bristles between the ocelli and a pair between the posterior ocelli and 2 pairs behind the ocelli. Anterior eye facets enlarged.

Thorax: The mesonotum is pollinose, abrupt and convex both anteriorly and posteriorly. The pile of the mesonotum is rather scanty, composed of stout, quite short, finely pointed, suberect setae; a fine row of very short, acrostical elements is present. Anterior dorsocentral elements present and likewise extremely short, but become long and quite stout behind the suture where there are 7 or 8 in the outer row and 3 or 4 in the submedial row. Humerus with fine, scanty pile. The stout, lateral bristles present in the type of genus consist of 2 notopleural, 2 supraalar, 2 suprapostalar, 3 or 4 postalar, and 1 pair of scutellar bristles. Scutellum pollinose, moderately thick and convex with an impressed rim, and scattered, fine, bristly, discal pile and a deep crease. The pleuron bears rather scanty, fine, long pile; the anterior pronotum has 2 or 3 pairs of bristles. The upper mesopleuron, the posterior and anterior sternopleuron have only a few, fine, short hairs; dorsal pteropleuron with 3 or 4 fine hairs; the posthypopleuron has a vertical row of exceptionally fine, long hairs. Metapleuron with a vertical row of 4 stout, moderately long bristles and some fine pile; lateral and ventral metasternum pilose; postmetacoxal area membranous; tegula with setae; basalare pubescent only; squama with a multiple fringe.

Legs: The femora are stout, the anterior and middle pairs distinctly though only moderately swollen toward the base. The dorsal, lateral, and anterior pile is stiff, fine appressed and setate. In the type of genus the bristles present are comparatively short, quite stout and in the hind femur consist of 4 lateral, the last subapical element in this row matched with a dorsal and dorsomedial bristle; also 1 stout, apical dorsomedial, 8 ventrolateral, 8 ventromedial and 2 longer, medial bristles near the base. The hind tibia has 1 medial bristle before the middle, 3 dorsomedial, 3 dorsolateral, 3 ventrolateral bristles on the outer half; apex with 1 medial, 1 ventromedial, 2 ventral, 1 ventrolateral, 1 dorsolateral bristle. Hind basitarsus comparatively short but as long as the next 3 segments, which are quite short. The middle femur has 5 or 6 posterior, 2 subapical posterodorsal, 6 anterior, 6 anteroventral, 7 posteroventral bristles besides 3 or 4 additional ventral bristles at the base, the whole group forming a loose cluster. The middle tibia has 2 short, posterodorsal bristles beyond the middle, 3 short, posteroventral and a like number of ventral elements. The anterior femur has 2 stout, posterior bristles in the middle and 3 stout, posteroventral on the basal half, together with 3 or 4 similar anteroventral bristles basally. The anterior tibia has 1 anterodorsal near the base which, together with 3 posterodorsal at the middle and beyond, are quite short and weak; ventrally there are 3 rather strong, moderately long, posteroventral bristles matched by 3 longer, ventral elements. All tarsi end in stout, moderately sharp claws, chiefly bent at the apex; long, thin, spatulate pulvilli and short, entirely slender empodium half as long as the claws.

Wings: The marginal cell is closed with a short stalk; subcostal cell is quite narrow, the marginal cell wide; the anterior branch of the third vein ends a short distance above the wing apex, the posterior branch ends a somewhat greater distance behind. Second posterior cell widened at the base but gently; fourth posterior cell closed with a rather long stalk; the anterior crossvein enters the middle of the discal cell at the middle; second basal cells ends in 2 veins which are briefly fused. The anal cell is closed and stalked; alula large; ambient vein complete.

Abdomen: The abdomen is elongate, distinctly longer than the wing and as wide as the mesonotum basally or slightly wider, and rather strongly tapered. Males have eight tergites, the eighth only present laterally, widening below where it is more than half as long as the seventh; the seventh tergite is of uniform width and only a third as long as the sixth. The sides of the first tergite are only a little produced. Pile of abdomen very short, bristly and flat appressed, continued short on the lateral margins; the sides of the first tergite bear at least 3 quite stout, black bristles and 2 additional pale bristles. Along the lateral, subposterior margin of the second tergite is a row of 5 short bristles, the upper 3 are rather stout; the same margins on the third and fourth tergites have shorter bristles and bristly setae. Surface of the abdomen, including the posterior membranes, pollinose. Sternites bear only fine setae, including the first. Male terminalia with the superior forceps quite elongate, blunt, and flattened at the apex, the leaf-like sides appressed; they are not rotate. The gonopod is extremely short, the hypandrium still shorter and linear.

Distribution: Ethiopian: *Dysclytus firmatus* Walker (1857) [=*spurcus* Loew (1858)].

Genus *Neolophonotus* Engel

FIGURES 301, 753, 1473, 1482

Lophonotus Macquart, Diptères exotiques, vol. 1, pt. 2, p. 125, 1838. Type of genus: *Asilus chalcogaster* Wiedemann, 1819, as *Lophonotus auribarbis* Macquart, 1838. Designated by Coquillett, 1910, as the first of 12 species. Preoccupied Lepidoptera, 1829.

Neolophonotus Engel, Bull. Soc. Ent. Egypte, vol. 8, p. 347, 1925. Change of name.

Neolophonotus has two subgenera, *Lophopeltis* Engel and *Lophybus* Engel.

Small to medium size flies, characterized by the apilose metanotum, the gently convex face with its numerous, long, slender, medial bristles, the medial mane, besides the dense bristles and tufted discal pile of the scutellum. Abdomen without bristles beyond the first tergite. More than any other thing, it is the general character of the facial gibbosity which begins immediately below the antenna, leaving the face barely and gradually convex over its whole height and uniformly covered with bristles or pile, which separates this genus and its close allies from the other members of the Asilinae. Length 12 to 20 mm.

Head, lateral aspect: The head is of medium length; the face is prominent, but only gently convex; the convexity extends to the base of the antenna. It is high, with the subepistomal area rather small, nearly horizontal and concave; cheeks moderate in depth. The occiput is prominent throughout, especially below; the eye becomes ventrally recessive near the middle, increasing near the bottom of the head. Pile of occiput comparatively dense and fine and long in the middle and below; bristles begin above the middle of the head; the upper elements become exceptionally long and strongly proclinate. The proboscis is longer than the face and held obliquely downward; it is comparatively slender apically and gradually swollen towards the base. Palpus slender and long, with numerous, terminal bristles. The antenna is attached a little below the upper third of the head and is not longer than the head and may be even shorter. All segments are rather slender; the first segment is twice as long as the second. The third segment is no longer than the first; it bears a conspicuous microsegment and a stout, fleshy, short, bristle-tipped style, itself no longer than the third segment, or even shorter. The first segment ventrally and especially the second segment each bear long, stout bristles ventrally and comparatively long, bristly hairs dorsally.

Head, anterior aspect: The head is very little wider than high, especially if the cheeks are considered. The face below the antenna is nearly a fourth the head width and slightly divergent below; it is wholly micropubescent and bears along the middle half of face numerous, somewhat curved, long, slender bristles or bristly hairs. Front slightly divergent, flat, pollinose, with a rather wide, oval, lateral, undifferentiated patch of quite long, slender, bristly hairs. The vertex is slightly convergent with slanting sides slightly excavated anteriorly but deeply excavated posteriorly; the ocellarium is large, anteriorly located, domelike, with 12 or more pairs of very long, slender bristles or bristly hairs.

Thorax: The mesonotum is high and evenly convex and anteromedially compressed; the surface is pollinose; there is a medial carina of stout, acrostical bristles and pile. The dorsocentral and lateral pile is undifferentiated anteriorly, but there are long dorsocentral elements beginning behind the humerus and there may be as many as 10 pairs posteriorly. Humerus bristly pilose. The lateral complement of stout bristles consists of 2 notopleural, 1 supraalar, 3 suprapostalar, 3 postalar, and the scutellar margin has 3 or 4 pairs of stout, long bristles, besides others which are borne on the posterior half of the disc; the whole disc bears abundant, long, coarse pile. Propleuron copiously, coarsely pilose; upper mesopleuron with bristly pile, the tegula is bare, the whole pleuron pollinose; the upper sternopleuron and pteropleuron each have bristly pile; the posterior hypopleuron and metapleuron each with a row of quite long, slender bristles. Metanotal callosity pubescent only and bullose. Postmetacoxal area membranous. Prosternum dissociated.

Legs: All the femora are quite stout, the first 4 swollen; the pile is rather shaggy, coarse and flat appressed, except ventrally on both tibiae and femora where it tends to be rather longer, erect and fringelike. Bristles are prominent and numerous. The hind femur has 6 dorsolateral bristles, including the one at apex, 2 subapical dorsal, 6 dorsomedial bristles, 5 ventral bristles on the basal half, and 5 or 6 ventrolateral elements on the distal half. Hind tibia with 4 dorsolateral, 4 or 5 dorsomedial, 4 ventrolateral and 2 or 3 ventromedial bristles; apex with 7 bristles. Middle femur with 3 or 4 anterior bristles and on the outer half 4 posterior bristles or sometimes more; its tibia has fewer bristles, 2 anterodorsal distally, 4 posterodorsal on the outer half, 3 posteroventral, and 1 distal ventral bristle. Anterior femur with at least 1 anterior bristle, 1 at apex, 3 distal posterior bristles and 2 basal ventral bristles; its tibia has 2 basal anterodorsal bristles and 6 distal posterodorsal bristles, besides 3 remarkably long, posteroventral bristles. Basitarsus short, as long as the next two segments; tarsal bristles long, claws sharp, slender, bent at apex; pulvilli and empodium well developed.

Wings: The third vein forks well beyond the posterior crossvein and the second submarginal cell is widened only above its base. The lower end vein of the discal cell is twice as long as the upper vein and strongly drawn toward the base. Fourth posterior cell closed and stalked; alula large, the ambient vein complete.

Abdomen: The abdomen is a little shorter than the wing, hence comparatively stout and robust and slightly tapered. The pile is coarse, suberect, in part setate, and rather long and abundant. Bristles are confined to the first tergite. The sternites characteristically bear fine, bristly pile but no bristles. Males with eight tergites, each one becoming progressively shorter and the last two quite short but a little longer laterally. Females with eight tergites, the eighth tergite long. Male terminalia large, and broad, the superior forceps well developed and cleft almost to the base; these forceps characteristically are often found with elaborate processes, lobes and spines and bristles. Gonopod quite short, wedged in between the long, laterally convex, broad, hypandrium and against the forceps above. The cavity of the genitalia is exposed. Dorsal proctiger long. Terminalia not rotate. The aedeagus ends in a single prong. Female terminalia remarkably short and high, a little compressed; the ninth tergite steeply slants downward; the proctiger has an apical, spinelike process.

This genus with its accompanying subgenera *Lophopeltis* Engel and *Lophybus* Engel constitutes a large, dominant element of the South African fauna.

Distribution: Ethiopian: *Neolophonotus albibarbis* Macquart (1848); *albus* Loew (1858); *amazaenes* Walker (1849); *breonii* Macquart (1838); *chalcogaster* Wiedemann (1819) [=*auribarbis* Macquart (1838), *phaeax* Walker (1849)]; *chubbii* Bromley (1947); *cupreus* Loew (1857); *dubius* Bezzi (1892); *flavibarbis* Macquart (1838); *forcipatus* Macquart (1838); *geniculatus* Macquart (1838); *grossus* Bromley (1936); *hirtipes* Ricardo (1920); *holoxanthus* Engel (1927); *incisuralis* Macquart (1938); *ladon* Walker (1849); *leoninus* Schiner (1867); *leucopygus* Engel (1927); *nanus* Bezzi (1906); *orientalis* Ricardo (1920); *porcellus* Speiser (1910); *robustus* Ricardo (1922); *rufus* Macquart (1838); *stannusi* Ricardo (1925); *suillus* Fabricius (1805); *tibialis* Macquart (1838); *ursinus* Schiner (1867); *vansoni* Bromley (1936); *virescens* Engel (1927).

Oriental: *Neolophonotus indicus* Bromley (1935).

Engel (1927) assigned species in the subgenera *Lophopeltis* Engel and *Lophybus* Engel; I have followed him and listed the species of these subgenera separate from *Neolophonotus* Engel.

Subgenus *Lophopeltis* Engel

FIGURES 307, 2286, 2333, 2368, 2370

Lophopeltis Engel, Bull. Soc. Ent. Egypte, vol. 8, p. 348, 1925. Type of subgenus: *Asilus comatus* Weidemann, 1821, as *Lophonotus erythracanthus* Hermann, 1907, by original designation.

Small or medium size flies, very similar to genus *Neolophonotus* Engel. The face is constructed similarly but apt to be shorter. There is generally a mesonotal mane present and the flies usually have marginal and discal bristles on the scutellum. It is especially defined by the presence of stout bristles on both the tergites and sternites and separated from *Megadrillus* Bigot, which also has such bristles, by the open first posterior cell. The base of the second posterior cell is strongly widened and the posterior crossvein quite long. Length 12 to 20 mm.

Head, lateral aspect: The head is of moderate length and strongly convex anteriorly; the face is quite short, nearly plane with the eye throughout most of its length. The proboscis is slender and extended beyond the face, the eye is posteroventrally recessive, beginning at the middle of the head and the occiput bears dense, long, fine, generally white pile below. Upper half of occiput with bristles, the more dorsal elements exceptionally long and proclinate.

Head, anterior aspect: The head tends to be nearly circular, with the face narrow and divergent below. The face below the antenna is from a sixth to a seventh the head width. Face micropubescent, except on the cheeks with a dense, medial mane of long, slender bristles extending beyond the proboscis. Antenna as in *Neolophonotus*. Front flat and divergent with a subocular row of bristly hairs. The vertex is narrow, rather deeply excavated behind and the low ocellarium bears a pair of slender, bristly hairs with another pair behind the ocelli.

Thorax: The thorax is similar to *Neolophonotus*. The scutellar margin has 2 or 3 pairs of quite long, basally stout, attenuate bristles and other similar pairs, 3 or more on the disc. In addition both the margin and the lateral portion of the disc may have some tufts of coarse hairs, but less abundant than in *Neolophonotus*. Margin of scutellum impressed, the metanotal callosity micropubescent and the postmetacoxal area membranous.

Legs: The legs are very similar to *Neolophonotus*.

Wings: The second submarginal cell widely flared at apex; the first posterior cell is widely open, the second posterior cell strongly expanded anteriorly at its base and at least twice as wide as the end of the discal cell. The posterior crossvein is exceptionally long, nearly paralleling the upper margin of the discal cell. Anterior crossvein oblique, entering the discal cell beyond the middle. Ambient vein complete.

Abdomen: The abdomen is comparatively slender, subcylindrical, slightly tapered and sometimes a little compressed laterally. The pile is mostly erect and coarse and moderately long, but longer on the first 3 tergites, becoming more or less appressed down the middles of the tergites. Sternites with scattered, fine, long pile and a few, stout bristles on the more basal sternites. Sides and subposterior margins of the second to eighth sternites with 1 to 3 pairs of stout, long, conspicuous, spikelike bristles. Males with eight tergites, the last half as long as the seventh. Females with six or seven tergites, those beyond incorporated into an elongate, very greatly compressed ovipositor. Male terminalia characteristically elongate, the superior forceps narrowed distally, with the tips of the processes curved medially and often leaving an open space on the dorsal aspect. The terminalia are not rotate; the gonopod is much shorter and the hypandrium present and about half as long as the gonopod. Eighth sternite simple and short, or sometimes exceptionally reduced. The female terminalia consist of the seventh to tenth segments; the seventh segment is abruptly compressed in the middle; the posterior half of this segment and the remaining segments are compressed, leaf-thin.

Distribution: Ethiopian: *Lophopeltis abuntius* Walker (1849); *albion* Curran (1934); *Albopilosus* Ricardo (1920); *albofasciatus* Ricardo (1920); *angola* Curran (1934); *angustibarbus* Loew (1858); *arno* Curran (1934); *comatus* Wiedemann (1821) [=*erythracanthus* Hermann (1907)]; *cuthbertsoni* Curran (1934); *genitalis* Ricardo (1925); *leucotaenia* Bezzi (1906); *mamathesiana* Bromley (1947); *marshalli* Hobby (1934); *molitor* Wiedemann (1828); *montanus* Ricardo (1920); *nigricans* Ricardo (1920); *nigripes* Ricardo (1920); *parva* Ricardo (1920); *pellitus* Wiedemann (1819) [=*isse* Walker (1849), *ustulata* Loew (1857)]; *pulchra* Loew (1858) [*albovittata* Schiner (1867)]; *rapax* Ricardo (1920); *rhodesiensis* Hobby (1933); *rhodesii* Ricardo (1920); *setiventris* Loew (1858); *similis* Ricardo (1920); *spiniventris* Loew (1858); *transvaalensis* Ricardo (1920); *wroughtoni* Ricardo (1920).

Subgenus *Lophybus* Engel

FIGURES 300, 772, 1472, 1483

Lophybus Engel, Bull. Soc. Ent. Egypte, vol. 8, p. 348, 1925. Type of subgenus: *Lophonotus melanolophus* Loew, 1858, original designation.

Small or medium size flies, similar to genus *Neolophonotus* Engel. The arrangement of the face and its bristles, the mesonotal and scutellar pile and bristles are similar. The flies differ principally in the presence of strong tergal bristles on the abdomen. The absence of such bristles on the sternites, separates them from subgenus *Lophopeltis* Engel. The terminal proctiger of the female, or cerci end in a spine on each side, so that the tip of the ovipositor seen from above generally appears to be bifurcate. Length 12 to 22 mm.

Wings: The wings have the second posterior cell moderately widened at the base, but rather gradually and the posterior crossvein is long, tending to parallel the upper border of the discal cell. The closing end vein of the fourth posterior cell tends to be nearly transverse to the wing and the anterior crossvein rectangular in contrast to the oblique crossvein generally present in *Neolophonotus*. The hypopygium is simple.

Distribution: Ethiopian: *Lophybus aphellas* Walker (1849); *congoensis* Ricardo (1920); *dispar* Engel (1927); *elgon* Oldroyd (1939); *flavopilosus* Ricardo (1920); *melanolophus* Loew (1858); *noas* Walker (1849); *tarsalis* Ricardo (1920).

Labromyia, new genus

FIGURES 341, 722, 1456, 1466, 2266, 2327, 2425, 2435

Type of genus: *Labromyia albibarbis*, new species.

Medium size flies related to the *Neolophonotus* Engel group of genera which have their home in South Africa. They differ in several respects. The antennal style is quite long, at least twice as long as the third segment whereas in the *Neolophonotus* group it is usually shorter than the third segment or no longer. Lower occiput not at all prominent; base of second posterior cell scarcely widened and only gradually; the anterior crossvein is only slightly oblique. Male terminalia short and obtuse. The female terminalia resemble *Lophopeltis* Engel but are quite wide on the basal half of the ninth tergite, leaf-flat on the posterior half. Length 14 mm.

Head, lateral aspect: The face is moderately produced beginning shortly beneath the antenna with the whole surface convex, much as in *Neolophonotus*. Occiput moderately developed over the middle but less prominent at the vertex and below. It bears about 13 weak, pale yellow, slightly curved bristles which begin above the middle of the head; the lowermost elements are strongly turned downward and a little backward; lower occipital pile abundant and yellowish white. The proboscis is comparatively slender and extends beyond the face with a bluntly rounded apex; apex with a few fine hairs; the ventral surface in the middle has a tuft of long hairs. Palpus small, cylindrical with scattered, long, fine or bristly hairs. The antenna is rather slender and style excepted is considerably shorter than the head. The first segment is longer than the second and slightly longer than the third segment. The third segment is oval and tapered distally, with a minute, microsegment followed by a long style, nearly as long as all 3 segments. The first segment bears a number of moderately long bristles below, a few setae above and second segment with long, distal setae above and below.

Head, anterior aspect: The face beneath the antenna is a little more than a fourth the head width, but less than a third the head width; it is slightly widened below. The face is densely beset with long, weak bristles or stiff bristly hairs beginning near the antenna at the point where the face elevation begins to develop. There is a shallow but distinct transverse furrow or fossa across the face immediately below the antenna. The bristles of the face continue equally numerous down to the epistoma and along the sides of the subepistoma. Front short, with about 13 bristles on each side. Vertex deeply excavated with slanting sides. The ocellarium is small, low, and bears on each side 3 long, well developed bristles in a longitudinal row. Anterior eye facets moderately enlarged.

Thorax: The mesonotum has a row of acrostical elements tripled to quadrupled in front along the anterior margin. Dorsocentral elements are present laterally, spreading out over the entire lateral portion of the mesonotum with a narrow, bare band between; the humerus bears 7 or 8 short, black setae posteriorly and a few, fine, pale, erect hairs anteroventrally. The mesonotum is rather high and slightly compressed laterally, with a special tendency in this direction anteriorly; the anterior margin is somewhat abrupt and strongly curved or convex. The lateral bristles are strong and consist of 2 very strong, long, brownish yellow notopleural, 1 similar supraalar placed high and directly above wing base, 2 postalar, 6 or 7 quite long, stout, postdorsocentral bristles arched backward, beginning at the middle of the mesonotum, and 1 pair of long stout, divergent scutellar bristles directed upward. Scutellar disc with rather numerous, moderately long, proclinate yellow hairs. Pleuron without bristles, except a single vertical row of 7 on the metapleuron; the lowermost 3 are strong. The pronotum has only pile. Whole pleuron brownish yellow pollinose; mesopleuron with 6 fine, long hairs posteroventrally, upper sternopleuron with 7 or 8 bristles; pteropleuron with 2 short, fine hairs. Hypopleuron with 5 long, fine hairs; metanotal slope bullose, only slightly creased medially, without pile and pubescent only; squamal fringe long. Metasternum laterally with 2 or 3 hairs; postmetacoxal area membranous.

Legs: The hind femur is only moderately thick, densely appressed, short pilose; the dorsal pile is black except at base. The subapex bears a pair of strong, dorsal, black bristles; at the apex dorsomedially is another bristle. Dorsomedial margin at the base and the ventromedial margin at the base with some long, fine, yellow hairs, and a transverse pair of rather strong, brownish yellow bristles at the basal fifth ventrally. Hind tibia slender, with appressed, fine, black setae laterally to the dorsal middle. Medial surface with a brassy yellow mat reaching almost to the base. This tibia has 2 black, strongly oblique, ventral bristles at middle and outer fourth, 4 dorsal bristles, 2 of them quite basal, 1 in the middle, 1 at the outer fourth; apex with 2 very strong ventral, 1 lateral, 1 dorsal, and 1 medial bristle. Middle femur with 2 strong, yellow bristles anteriorly near the middle, 1 at the apex posteriorly. The middle tibia with 3 rather long, brassy yellow, posteroventral bristles, 2 black, strong, oblique, ventral bristles at the middle and outer fourth; also there are 2 or 3 short dorsal bristles, the weak outer 2 elements doubled. Otherwise these tibiae bear appressed, black setate pile, yellow posteriorly. Anterior femur with 2 or 3 quite short, weak bristles anteriorly and a similar bristle dorsally at the outer fifth. On the anterior tibia are 3 quite long, strong, brassy yellow, posteroventral bristles; its apical bristles are black and exceptionally strong, and long ventrally and anteriorly; in addition it has 3 rather weak, short, dorsal, black bristles. Basitarsus short, with very long, stout, black bristles directed posteriorly at base and apex; the anterior bristles are shorter. Claws long, sharp, strongly bent at the apex; pulvilli thin, subtruncate apically reaching to the inner end of claw; empodium long, stout at the base.

Wings: The marginal and submarginal cells, and to a less extent the whole wing, are rippled; anterior margin not expanded. The anterior crossvein is moderately oblique. The second submarginal cell takes origin beyond the end of the discal cell. If this fly is related to the *Neolophonotus* Engel complex it is separable from the several Ethiopian genera by the wavy, sinuous, second branch of the third vein. Base of second posterior cell scarcely or at most very gradually swollen and expanded. The second basal cell ends in two veins. Fourth posterior cell closed and stalked, convex on all sides. Alula large, ambient vein complete.

Abdomen: The abdomen is cylindrical and tapered, only the first and second tergites are slightly flattened in the middle. The first tergite is a third as long as the second; it bears scanty, yellow pile laterally and 5 rather stout, moderately long, yellow bristles. The subposterior margin laterally on the remaining tergites has 1 or more moderately stout, yellow bristles; on the second tergite these bristles number 5, with the medial 2 much longer and stronger; third tergite with 6 or 7 bristles; fourth tergite with two, fifth to seventh tergites with 1 bristle each. Males with 8 tergites; females with 7 tergites visible. Male terminalia large but unusually short. The superior forceps are expanded distally but quite obtuse; the proctiger is concealed between. Gonopod about half as long as superior forceps, appressed between the upper forceps and the large, greatly extended eighth sternite. The female ovipositor is slightly longer than the last two tergites, strongly compressed laterally; it begins to be compressed only at the middle of the eighth segment; the sternites bear a number of moderately stout, rather long, yellow bristles placed irregularly in the middle. The second sternite has 7 or 8 bristles, the third has 10 or 12, the remaining sternites with fewer bristles.

Distribution: Neotropical: *Labromyia albibarbis*, new species.

Labromyia albibarbis, new species

Length 14 mm. Male, female. Head: The head is black with white mystax, and the general appearance of the flies brownish black.

Thorax: The anterior mesonotum has the color rather sharply demarcated, but not quite extending to the humerus; the humerus and its postmedial border is brownish yellow; the black of the mesonotum is continued as submedial stripes posteriorly. Whole pleuron is pale, brownish yellow pollinose. Knob of halteres is red. Scutellum pale greyish to brownish yellow pollinose.

Legs: Hind femur distinctly black, except at the apex, which is brownish orange. Anterior 4 femora more extensively brownish orange but chiefly black. Coxae and trochanters largely black. All tibiae of a light, yellowish brown, the apices diffusely and narrowly dark, reddish brown. All basitarsi, except the extreme apex and a small part of the succeeding two segments, yellowish to reddish brown.

Wings: The wings are hyaline.

Abdomen: The abdomen is black, brownish to greyish yellow pollinose and, excepting the postmargins, appears black pollinose widely over the middle, when viewed from a posterior angle. Setae of abdomen black but they become yellow laterally on the tergites.

Type. Male, allotype, female, San Bernardino, Paraguay, collected by Fiebrig. Types in the collection of the Zoologische Staatssammlung, Munich.

Genus *Lycomya* Bigot

FIGURES 367, 754, 1402, 1411, 1566, 2197, 2289, 2358, 2504

Lycomya Bigot, Ann. Soc. Ent. France, ser. 3, vol. 5, p. 288, 1857. Type of genus: *Lycomya germainii* Bigot, 1857, by monotypy.

Lycomyia Kertész, Catalogus dipterorum, vol. 4, 1909. Emendation.

Large flies with cylindroid, elongate and comparatively slender abdomen. The hind femur and tibia are elongate, the femur slightly dilated distally. They are readily recognized by the elongate, third antennal segment which bears only an exceptionally short style. Length 28 mm.

Head, lateral aspect: The face is extremely short, a little produced on the upper fifth beneath the antenna, a little more strongly produced on the lower fifth, leaving the intervening portion plane, vertical and barely extended beyond the eye margin. Cheeks beneath the epistoma prominent. The eye is of moderate length, a little more narrow on the ventral half and plane on the posterior margin from the vertex to a point equal to an eighth the distance from its ventral margin. At this point the eye is strongly anteroventrally recessive. The occiput is very short and concave medially, being produced for a short distance sublaterally. The posteroventral support for the proboscis forms a conspicuous, posteriorly bulging saddle-like process, which bears posterodorsally a wide, V-shaped depression. Pile of occiput rather dense but short and stiff at the bottom of the eyes, being replaced on the lower fourth by numerous, weak bristles, at first disposed in 2 rows, and which near the middle of the occiput become 1 row, and dorsally become much stouter but never long. In addition, there is some short, fine pile associated with the bristles. The proboscis is dorsoventrally depressed, rather wide, with thinned apex and gently swollen towards the base from the dorsal aspect; it is a little more strongly swollen from the lateral view. There is a low, inconspicuous, dorsal ridge occupying the basal fourth, beginning at the end of the basal swelling; apex with a few, short, stiff hairs, the base below with some moderately long, very fine hairs; proboscis directed obliquely downward. Palpus slender, rather short, cylindrical, with numerous, ventral and lateral, bristly hairs and some longer, stiffer bristles at the apex; there is a distinct, pile-bearing trace of the basal segment fused medially, membranous laterally.

Antenna attached at the upper fifth of the head. The antenna is elongate and slender; first segment twice as long as the second. Third segment at least 1½ times as long as the first two combined, gently attenuate distally and with a short microsegment carrying a minute spine.

Head, anterior aspect: The face below antenna is a fifth of head width and rather strongly divergent below. Subepistomal area moderately large, slightly convex with a low, medial, V-shaped depression and strongly oblique. Face micropubescent, but the cheeks pollinose. Face apilose or there may be not over 1 or 2 fine, bristly hairs above the mystax on each side. Mystax composed of long, stout, pale bristles extending in 2 rows across the middle of the epistomal margin, in 1 row down the upper half of the sides of the subepistoma where the bristles may be either black or white. Front very short, pollinose, with a few, minute setae along the eye margin; vertex deeply excavated, but narrow; the ocelli set quite forward, the ocellarium low, with a pair of short, anteriorly curled setae in the middle and 2 short pairs behind the posterior ocelli. Anterior eye facets moderately enlarged.

Thorax: The thorax is pollinose and feebly shining. Pile of mesonotum very scanty; there is a row of fine, short, curved, acrostical elements doubled anteriorly; a row of equally short, dorsocentral elements which behind the suture become quite long but very slender, with 10 in each row. Humerus with a few, fine hairs only. In the type of genus the moderately stout, lateral bristles consist of 2 notopleural, preceded by 3 slender, posthumeral, 2 supraalar, 1 postalar, 2 pairs of scutellar bristles. Scutellum pollinose, moderately thick, convex with distinctly impressed rim and sharp basal crease. Prothorax with abundant, fine pile ventrally and slightly stiffer pile posterolaterally; pronotum with 2 or 3 pairs of bristles. Anterior sternopleuron only with a tuft of fine hairs and a few, fine, short hairs posteriorly and dorsally on the mesopleuron; hypopleuron with a vertical row of 4 or 5 long, slender, distinct bristles. Metapleuron with a narrow, vertical band of similar bristles or bristly hairs. Pteropleuron with 2 or 3 long, bristly hairs and a few, fine hairs. Lateral slopes of the metanotum bullose, with a patch of stiff pile. Metasternum laterally with pile posteriorly. Ventral metasternum chitinized with numerous, fine, long hairs. Postmetacoxal area large, long and distinctly membranous; tegula with several setae; posterior basalare with 5 or 6 fine hairs; anterior basalare pubescent only; squama with a multiple fringe.

Legs: The anterior and middle femora are stout without being swollen. The hind femur is a fourth longer than the middle femur, its tibia of equal length and it is a little dilated dorsally on the apical half. All the femora have dense, fine, appressed setae dorsally, the tibiae similar, and the lateral pile similar. The following complement of stout but only moderately long bristles present: On the hind femur 2 lateral at the the middle and distal third with 1 fine, additional basal bristle; no ventrolateral elements, but 2 prominent ventromedial at the middle of the basal fourth, and 2 other basal, much finer, shorter bristles; also 1 prominent subapical, dorsolateral, 1 similar dorsomedial, and at the apex 2 small, short, slender bristles on each side. Hind tibia compartively slender, with 4 dorsomedial, 3 dorsolateral, 2 ventrolateral on the outer half; apex with a circlet of 8 bristles. Hind basitarsus longer than the next 3 segments. Middle femur with 2 anterior near the middle; 2 short, subbasal posterior, 1 strong posterodorsal subapical, 2 rather strong, ventral bristles near the base and 2 fine, long, bristly hairs in the middle ventrally. Middle tibia with 3 anterodorsal, 2 posterodorsal beyond the middle, 4 posteroventral and 3 ventral bristles, of which the outer 2 are stout. Anterior femur with 2 stout, long, basal ventral elements similar to those of the middle femur. Anterior tibia with 1 anterodorsal near the base, 2 posterodorsal beyond the middle, 2 quite long, stout, posteroventral bristles beyond the middle together with a few, fine, bristly hairs in the same row. Basitarsus only as long as the first two segments. Tarsi end in a sharp claw, strongly bent at the apex; long pulvilli; and a long bladelike empodium, only a little thickened at the base.

Wings: The wings are slightly narrow. The marginal cell is closed and stalked; the anterior branch of the third vein ends shortly before the wing apex; posterior branch ends a little farther behind the wing apex. All of the posterior cells are widely open, except the fourth which has a long stalk. The lower end vein of the discal cell is quite long, parallel to the wing margin, the upper vein vertical to the wing margin. Fourth posterior cell strongly convex anteriorly and distally; second basal cell ends in two veins. The anal cell is closed with a short stalk; alula large, the ambient vein complete. The wing is tinged with brownish yellow, the apical third and the posterior margin with sepia villi, the marginal cell rippled but the costa and cells not expanded.

Abdomen: The abdomen is elongate, cylindroid, more narrow than the mesonotum. The first tergite is a little wider, bearing 2 stout, reddish bristles and numerous, long, fine, bristly hairs. Pile of the abdomen rather short and flat appressed. Posterolateral margins of the tergites with numerous, weak bristles or bristly hairs. First sternite apilose, the remaining sternal pile short and stiff. Eight tergites in the male, the eighth dorsally a fifth as long as the seventh but a little longer laterally. Female with seven tergites; the eighth is much smaller, triangular, arched, convex and forming most of the short ovipositor; ninth and tenth tergites of equal length, a little shorter than the eighth, the tenth is narrow and laterally compressed. Male terminalia conspicuous, not rotate; the superior forceps with a medially directed, narrow process separated at the base. Hypandrium quite short and undivided. Aedeagus tubular. In the male the eighth sternite has a transverse band of numerous, stiff, erect bristles, reddish and black.

Distribution: Neotropical: *Lycomya germainii* Bigot (1857). From Chilean subregion.

Genus *Antilophonotus* Lindner

Antilophonotus Lindner, Jhft. Ver. vaterl. Naturk. Würtemberg, Stuttgart, vol. 110, p. 33, 1955. Type of genus: *Antilophonotus maculipennis* Lindner, 1955, by original designation.

The following description is from Lindner.

A new genus which, with its two strong up-curved scutellar marginal bristles (according to Engel's definition, 1925), belongs in the relationship of Neolophonotus Engel but cannot be united with it. Morphologically it extensively agrees with it; however the lateral tubercle of the metanotum is bare, the pleura are not strongly fascicularly pubescent. (The pubescence has obviously not only disappeared.) The "mane" of the thorax is only a little developed on the prescutellar area, which runs out like a wedge cephalad. Surface of scutellum with sparse erect hairs; but instead, in addition to the marginal bristles, there are numerous long snow-white, cephalad-bent hairs on the margin of the scutellum. Body and p with white appressed pubescence, and the tergites and sternites with stiff patulose discal bristles. acr on the prescutellar surface with only a few bristles in two rows, quite far forward on the mesonotum with a few bristles in one row. Genital apparatus of the ♂ short, only as long as the next-to-the-last pregenital tergite.

Distribution: Ethiopian. *Antilophonotus maculipennis* Lindner (1955). From East Africa.

All t ventrally with a brown longitudinal stripe which is darkest on t–3 and goes over into the em-browned apical third. The tarsi on p–3 are nearly all black, on p–1 and p–2 increasingly blackened only toward the apex. On p–1 the setation is nearly all yellow, on p–2 and p–3 predominantly black, especially on the dark parts. Wing bordered with gray on the apex and on the posterior margin up to the place where an ends (Cu–2 stalked). Abdomen yellowish gray, with lighter posterior margins and a brown longitudinal-stripe marking. The middle one of these stripes is broken up into oblong spots by the posterior margins of the tergites. The lateral stripes are also broken up into spots which do not reach the posterior margins but, seen from the side, are angularly curved inward in the posterior angles. Pubescence and setation whitish, on the dark parts short black, on the sides long patulose whitish. Hypopygium very complicated, shining black, above and below with a golden yellow lock of hair. 13.5 mm.

Distribution: Ethiopian. *Hynirhynchus zebra* Lindner (1955). From East Africa.

Genus *Chilesus* Bromley

FIGURES 210, 755, 1404, 1413, 2194, 2298, 2438

Chilesus Bromley, Diptera of Patagonia and South Chile . . . in the British Museum (Natural History), pt. 5, p. 272, 1932. Type of genus: *Chilesus geminatus* Bromley, 1932, by original designation.

Large flies with elongate, tapered abdomen, the face nearly straight in profile and only slightly produced below. The face lacks pile on the upper part and has 2 or 3 rows of stout bristles above the epistomal margin. The hind femur is slender, slightly elongate and the antenna characteristic in the presence of two rather short microsegments with the style absent, unless the second microsegment which carries an apical spine be regarded as a style. Length 25 to 30 mm.

Head, lateral aspect: The face is slightly produced on the lower half; it begins to rise gently near the middle of the face. The eye is of moderate length, convex anteriorly and narrowed below, plane on the posterior profile on the upper half; it is strongly recessive anteroventrally and also plane on the lower two-fifths of the eye. The occiput is moderately thick, with the pile of the occiput quite dense ventrally and rather long; slender bristles begin below the middle of the eye and are straight and only moderately long. The dorsal bristles of the same length are somewhat more stout and also straight. There are at least 25 pairs on each side. The proboscis is of only moderate length and thickness, a little swollen basally from the dorsal aspect, the apex is bluntly rounded, with short, bristly pile above, below and laterally. The base has numerous, fine, long hairs ventrally and laterally; proboscis directed obliquely forward. Palpus small, slender, cylindrical with fine pile at the apex and ventrally and laterally. The antenna is attached at the upper third of the head and moderately long; the first segment is 1½ times as long as the second. The third segment is a little compressed laterally, 1½ times as long as the first two segments combined and rather strongly tapered from near the base; it bears a short, distinct, stout microsegment followed by a second, equally stout, very slightly tapered microsegment which is three times as long as the first microsegment and carries a distinct, central, apical spine.

Head, anterior aspect: The face below the antenna is a fourth the head width and divergent at the epistoma. Subepistomal area oblique, large, very slightly concave and pubescent. The face is densely, minutely pubescent or pollinose without pile on the upper three-fourths or lateral margins. Above the epistoma and encircling the lateral margins to a point equal the bottom of the eye, is a double or treble row of long, but very slender bristles, and above these bristles in the middle of the face are a few, exceptionally fine, shorter hairs. Front pollinose, with a wide, oval, lateral fascia of slender bristles containing approximately 15 elements. Vertex but little excavated; the ocellarium rather large, moderately high with vertical sides, large ocelli and bearing in front of each posterior ocellus a short, slender bristle; also there is a pair of bristles between these ocelli and a close-set tuft of 5 pairs behind the ocelli. Anterior eye facets slightly enlarged.

Thorax: The thorax is pollinose; the pile of the mesonotum is moderately abundant but quite bristly in character and also moderately long and suberect. There is an irregular band of acrostical bristles of the same length which are differentiated only anteriorly. Dorsocentral elements are differentiated opposite the suture but they become quite long and stout posteriorly with 4 such bristles on each side. The humeri have bristly pile. In the type of genus the following complement of long, rather stout bristles is present: 2 notopleural, 3 supraalar, 1 suprapostalar, 3 postalar, and 2 pairs of scutellar bristles. All the long bristles are pale; the bristly hairs are black, except on the pleuron. Scutellum thick, convex with impressed rim, pollinose, with numerous, long, bristly discal hairs. The base is fused in the middle. Propleuron with a long, dense, bristly pile; the pronotum and the posterolateral pronotum with several slender bristles. Upper mesopleuron, upper middle and anterior sternopleuron, pteropleuron and the posthypopleuron with long, fine pile. Metapleuron with at least 4 long, stout bristles and considerable, additional, bristly hairs. Lateral slopes of the metanotum with a large patch of bristly pile. Lateral and ventral metasternum with abundant, long pile; postmetacoxal area membranous; tegula with minute setae; posterior basalare with a ventral tuft of 6 or 7 bristly hairs; anterior basalare pubescent only. Squama with a multiple fringe.

Legs: The hind femur is relatively slender, especially towards the base, but slightly thickened distally, and is one-third longer than the middle femur. Anterior and middle femora stout without being swollen. Dorsal pile of the hind femur, its anterior, ventral, and medial pile, and the dorsal pile of the remaining femora all fine, appressed and setate. In the type of genus the following complement of stout, long, pale bristles present: 4 lateral, 4 ventrolateral, all crowded close to the apex and quite small, and at the outer fifth 1 stout, dorsolateral bristle, 2 similar dorsomedial, 3 long, medial bristles; and on these tibiae 6 dorsomedial, 3 dorsolateral, 2 ventrolateral. The middle femur has 2 long, stout anterior, 2 or 3 anteroventral on the basal half, and a conspicuous row of 8 ventral and a row of 11 or 12 posterior bristles, some of them double and all rather short. Middle tibia with 2 anterodorsal, 3 posterodorsal, 3 posterior and 3 posteroventral, and 3 stout anteroventral bristles. Anterior femur with 2 or 3 short, posterior bristles and 4 ventral bristles, of which 3 are basal; its tibia has 1 long, strong, basal anterodorsal, 3 posterodorsal, 2 quite long, posteroventral near the middle, and 4 or 5 short, slender posterior bristles. The posterior tarsi are comparatively long, the anterior tarsi shorter; anterior basitarsus as long as the next two segments. Posterior basitarsus as long as the next three segments. Tarsi end in a slender, sharp claw curved at the apex, long spatulate pulvilli, and a rather slender empodium only about half as long as the claw.

Wings: Marginal cell of normal width and closed with a long stalk. Subcostal cell rather narrow. The anterior branch of third vein ends distinctly above the wing apex; the posterior branch ends behind the apex by twice that distance. Fourth posterior cell closed with an unusually long stalk; this cell is long, strongly convex anteriorly, a little convex distally and nearly straight behind. Second basal cell ends in two veins. Anal cell closed with a rather long stalk; the axillary lobe is long; the anal vein concave posteriorly. Alula large, the ambient vein complete though reduced on the axillary lobe.

Abdomen: The abdomen is considerably longer than the wings; at the base it is distinctly more narrow than the mesonotum, cylindroid and rather strongly tapered.

Pile of abdomen fine, minute, suberect, bristly or setate in character, but the sides of the first three tergites have a little longer pile which is never conspicuous. The first tergite laterally is only slightly protuberant and bears 4 slender, lateral bristles and additional, stiff pile. Posterolateral margins of the second, third and fourth tergites with a row of 4 rather stout, pale, appressed bristles. There are eight tergites in the male, the eighth tergite a third as long as the seventh. Females with seven tergites, with the eighth and the remainder incorporated in the ovipositor. Male terminalia moderately large, elongate, not rotate; the superior dorsal forceps considerably longer than the lateral pair; the last sternite long and undivided. Female terminalia comparatively short, only a little compressed laterally, strongly convex above; the eighth tergite is considerably shorter than the seventh. Ninth and tenth tergites moderately long and extended straight backward. The first sternite is apilose, the others with quite short, appressed, bristly pile; the base of the second sternite with some longer, erect, bristly hairs.

Distribution: Neotropical: *Chilesus geminatus* Bromley (1932).

Genus *Echthistus* Loew

Figures 358, 756, 1507, 1516, 2276, 2323, 2360, 2414

Echthistus Loew, Linnaea Entomologica, vol. 4, p. 142, 1849. Type of genus: *Asilus rufinervis* Meigen, 1820, by original designation.

Medium size flies or smaller with slender, tapered abdomen. They are characterized by the long, prominent face, the unusually thick occiput, the vertex which shows little or no excavation. Occipital bristles and pile especially abundant. The hypopleuron and pteropleuron bear bristles. Still more striking is the exaggerated, tuberculate, spinelike complex of bristles on the ventral surface of the first 4 legs. Length 20 mm.

Head, lateral aspect: The face is unusually prominent, although only moderately produced on the upper fourth beneath the antenna. At this level the face is rather abruptly produced to a moderate extent but the appearance of length is increased by the ventral posterior recession of the eye. The eye is also to a moderate extent anteriorly recessive, leaving the eye profile angulate below; eye unusually long and very strongly convex anteriorly; it is approximately plane through the middle third posteriorly. The occiput is unusually thick, but its thickness is greatest at some distance from the eye margin and extends undiminished nearly or quite to the vertex. Occipital pile scanty through the middle but exceptionally abundant, long and fine behind the vertex and again abundant ventrally; bristles begin below the middle of the head at the lower fourth; number 12 on each side, with an additional 8 dorsal bristles which are somewhat more stout; all of them are relatively short and slightly curved, and through the middle form a double row. The proboscis is of moderate length, directed obliquely downward, comparatively slender, subcylindrical, slightly swollen at the base; the dorsal ridge is high and prominent, the apex gently tapered from below, bluntly rounded and bearing on all sides rather long, stiff pile; the ventral surface as far as the middle has numerous, long, stiff hairs. Palpus of one segment with a distinct trace of the basal segment; the ventral and lateral surfaces bear numerous, long hairs, the apex with many weak bristles.

The antenna attached to upper third of head, rather slender and elongate, the first segment is not quite twice as long as the second. The third segment is a little longer than the basal two combined; it is nowhere thicker than the swollen apex of the second segment, slightly tapered at its apex, and bears a short microsegment with a short, thick style carrying an apical spine. The style is two-thirds as long as the third segment. First segment with 6 or more setae above, about 10 setae below, several of which are as long as the segment; second segment with 2 or 3 short setae above and below; third with 2 or more setae dorsally.

Head, anterior aspect: The face below the antenna is a fourth of head width, widening below. Subepistomal area moderately large, concave and pubescent. The face is micropubescent, with pile absent except on the lower lateral corners of the epistomal margin. The bristles of the face are numerous; beginning at the upper edge of the gibbosity and extending down the middle half of face they increase in length and stoutness. Middle of the face with a transverse row of 4 especially stout bristles and weak elements immediately below it, followed by a cluster of 10 especially stout, much longer, pale bristles. All bristles slightly curved and directed obliquely forward. Each lateral margin of subepistoma with 6 long, stout bristles. Front slightly divergent, the vertex scarcely convergent. Sides of front with 12 to 14 long, slender bristles or bristly hairs. Vertex scarcely or at most very slightly excavated. Ocellarium moderately high, bearing some 8 pairs of moderately long, slender, divergent bristles. Eyes scarcely enlarged.

Thorax: The mesonotum with pleuron pollinose; pile of mesonotum erect, moderately long, fine, somewhat curled and setate. There is a wide band of acrostical setae; dorsolateral bristles are characteristic and become exceedingly stout and long at a level shortly behind the humerus and thence backward with 8 or 9 pairs of such bristles. Humerus pilose. Stout, long, lateral bristles are present and consist of 1 posthumeral, 3 notopleural in transverse row, 3 supraalar, 1 suprapostalar, 3 postalar and 1 pair of scutellar bristles. Scutellar disc thick, convex with impressed rim, bearing a number of fine, erect hairs. Propleuron with abundant, long pile; the pronotum has on each side about 14 exceptionally long, stout bristles. Upper, posterior, and anterior mesopleuron and upper sternopleuron with some long, stiff pile. Pteropleuron with 4 or 5 long, slender bristles. Hypopleuron with 3 extraordinarily long, very stout bristles. Metapleuron with 10 to 12 bristles varying from stout to slender. Metanotal slopes with a large patch of long, fine pile. Lateral and ventral metasternum with numerous, fine hairs; postmetacoxal area membranous; posterior basalare with 4 setae; squama with a multiple fringe. Prosternum connected to lateral propleuron by a narrow strip of chitin.

Legs: All the femora are stout; the anterior and middle femora are distinctly thickened toward the base, the hind femur slightly elongate. The hind femur is nearly 1½ times as long as the middle femur. Pile of these femora abundant, appressed, stiff setate. Bristles are very numerous and for the most part rather long and exceptionally stout. On the ventral surfaces of the first 4 legs they are curved, very sharp, tuberculate and spinelike. The hind femur bears 1 dorsomedial bristle at apex, a double bristle dorsomedially and subapically, and 2 others in the same row on the outer fourth. The dorsolateral row contains 7 especially long bristles, the ventrolateral row 11, the ventral row 10, which are also long; the hind tibia bears 6 long dorsal, 3 similar, lateral bristles which are quite appressed and 4 ventral, also 4 or 5 fine, medial and 2 stout medial bristles near the base and apex; brush of setae restricted to the tibiae and the first segment of the tarsi; apical circlet with 8 bristles. Middle femur with an oblique row of 4 posteroapical, 6 posterior, 10 anterior, 12 posteroventral, and 8 anteroventral; all these bristles are spinelike and black. The middle tibia has 4 dorsal, 4 posterior and fine, bristly hairs beneath.

Anterior femur with an oblique row of 3 anteroapical and a double row of stout, long, curved, sharp, ventral, spinous bristles, increased to 4 rows on the basal half, a total of 30 bristles. Anterior tibia with 5 short, dorsal bristles, 2 weak posterior at the apex, 1 posterior, 1 posteroventral bristle, and an anteroventral fringe of long, slender, bristly hairs. First segment of the basitarsus slightly longer than the second, each with 2 stout, apical dorsal bristles, 2 longer anteroapical, 1 long, apical posteroventral, 1 still longer, posterodorsal bristle. Tarsus ends in large pulvilli, a stout empodium two-thirds as long as claw, and in a stout, moderately sharp claw curved from the base.

Wings: The marginal cell is closed with a short stalk; the anterior branch of the third vein ends distinctly above wing apex, the posterior branch ends behind. The second submarginal cell begins at the end of the discal cell. First posterior cell slightly narrowed in the middle; discal cell narrowed in the middle; lower end vein of discal cell strongly drawn towards the base. The fourth posterior cell is closed with a long stalk; anal cell closed; second basal cell ends in 2 veins; alula large; ambient vein complete.

Abdomen: The abdomen is subcylindrical or sometimes with the sides flared out and only slightly rolled. Abdomen distinctly tapered; the first tergite is swollen laterally and ridged. Pile of abdomen scanty, short, flat appressed and setate with some slightly longer, erect pile on the lateral margin. A few fine, long, erect hairs present on the sternites. First tergite with 3 lateral bristles and a cluster of 5 or 6 bristles in the middle laterally on the second to fifth tergites, and with fewer elements on the sixth and seventh tergites. Sternites characteristically with similar, lateral, central clusters of bristles. Abdomen as long as the wings. In the males eight tergites present, the eighth only a fifth as long as the seventh and of uniform width; seven tergites present in the female, the eighth incorporated in the ovipositor. Male terminalia with the superior forceps robust, divergent but meeting medially at apex; apical part sometimes notched and a wide space is left from dorsal aspect. Proctiger flat and extended obliquely upward. Gonopod short, the hypandrium still shorter. Whole cavity widely open from the ventral aspect. Eighth sternite quite short, receding from its posterior margin in the middle. Female terminalia with the ventral portion strongly compressed laterally but with the upper portion forming a basally broad, slightly convex hood, which rests above the lower portion; apex attenuate.

Distribution: Palaearctic: *Echthistus cognatus* Loew (1849) [=*rufiventris* Meigen (1820)]; *rufinervis* Meigen (1820) [=*femoralis* Megerle Ms., in Meigen (1820), *?flavescens* Macquart (1834)].

Genus *Hoplopheromerus* Becker

FIGURES 342, 757, 1525, 1534, 1573, 2191, 2295, 2353

Hoplopheromerus Becker, Ent. Mitt., vol. 14, p. 241, 1925. Type of genus: *Asilus armatipes* Macquart, 1855, by present designation. This is the second of two species.

Moderately large flies distinguished in both sexes by the very dense brush of almost spinous bristles along the middle of the anterior margin of the thickened, middle femur, together with an exaggerated row of stout bristles anteroventrally on the corresponding tibia. The face is rather short, the very low ventral gibbosity gently rises in the middle, accentuated only by the recession of the eye; the upper part of the face is plane with the eye. Pile of the thorax minute, especially in the female, and the abdominal pile also shorter in the female. Length 24 to 30 mm.

Head, lateral aspect: The face is nearly or quite plane with the eye on the upper half, with a low, rounded, gently rising gibbosity on the ventral half, perhaps slightly more prominent in the male; the eye is strongly convex anteriorly, convexly recessive at the extreme, lower corners. Occiput moderately thick throughout; pile of occiput moderately abundant and fine, with slender bristles beginning shortly below the middle of the head; the dorsal elements are distinctly proclinate, though very little stouter than the lower elements; there are perhaps 20 on each side. The proboscis is slender, attenuate from the base, more strongly attenuate from the dorsal aspect; the base is laterally widened; apex rather pointed, with some stiff, bristly hairs along the dorsal margin on the outer fifth and others apically and ventrally just beyond the middle. There are 2 pairs of rather long, oblique, bristly hairs on the basal third, with some additional, stiff or bristly hairs; the proboscis is directed chiefly forward and slightly downward. Palpus rather long and slender with numerous, fine hairs and at the apex 5 or 6 slender bristles. The antenna is attached at the upper third of the head or just above. The first segment is 1¾ times as long as the second segment; both segments bear several, stiff, bristly setae ventrally, and a few, fine hairs dorsally. Third segment elongate oval but narrowed only near the apex; it is nearly as long as the first antennal segment and bears an unusually long, slender style, longer than all 3 segments combined; microsegment absent. For most of the length the style is ringed by micronodular, extremely short setae.

Head, anterior aspect: The face below the antenna is a sixth the head width and expanded at the epistoma. Subepistomal area rather large, oblique, deeply concave, V-shaped and pubescent. The face is apilose; the gibbosity bears numerous, long, moderately stout bristles, the more central elements along the epistomal margin are stout and consist of 3 or 4 pairs of dorsal, black bristles; the remaining bristles pale with numerous, slender bristles along the subepistomal lateral margins. Middle face bristles extend beyond the apex of the proboscis. Front short, plane and pollinose with 4 minute, bristly hairs along the eye margin and a row of 4 additional, slender, bristles or bristly hairs in front of the antenna. Vertex narrow, only moderately excavated, with vertical sides and the ocellarium low; 2 pairs of stout, short, proclinate bristles behind the ocelli. Anterior eye facets enlarged.

Thorax: The thorax is pollinose; the pile of mesonotum in the male consists of scanty, fine, suberect, bristly hairs with a distinct band of acrostical pile of the same character; the dorsocentral elements are poorly differentiated, becoming long and fine posteriorly. Pile of female mesonotum considerably shorter and more minute; the posterior dorsocentral elements are somewhat more conspicuous. The moderately stout, long, lateral bristles consist of: 2 notopleural, 1 supraalar, 1 suprapostalar, 3 or 4 postalar and 1 moderately strong pair of scutellar bristles, with an additional weak, lateral pair. Scutellum thick, convex, with impressed rim and deep crease; the disc bears some fine, moderately long, bristly hairs; propleuron with fine pile ventrally and laterally. The pronotum has 4 pairs of stout, black bristles in the female but in the male laterally on the side margins of the pronotum there are at least 4 additional, stout, black bristles. Upper posterior pronotum with fine pile in both sexes; mesopleuron with a few, fine, stiff hairs dorsally; pteropleuron with 3 or 4 slender bristles and additional, bristly pile; posthypopleuron with at least 1 stout bristle in both sexes; pteropleural bristles apparently absent in the female, although some fine pile is present dorsally. Metapleuron with an oblique row of 4 stout bristles and some bristly hairs. Lateral slopes of the metanotum strongly creased medially near the bottom with a patch of bristly pile. Lateral and ventral metasternum with bristly pile; postmetacoxal area membranous; prosternum connected to lateral propleuron by a very narrow, anterior strip of chitin. Tegula pubescent only; posterior basalare with a patch of 8 to 10 slender bristles; anterior basalare with 1 or 2 bristles; squama with a multiple fringe.

Legs: The anterior and posterior femora are comparatively slender, the former a little dilated towards the base. Middle femur distinctly but moderately thickened through the middle. Dorsal pile of all the femora very fine appressed, short and bristly setate; ventral surfaces of all of the femora with very little pile, the anterior pair with some bristles; medial surface of the hind femur with moderately numerous, bristly hairs and some slender bristles. On the hind femur 1 lateral bristle at the basal third, 1 dorsolateral at the apical sixth, 1 dorsomedial subapical bristle; medial surface with a slender, basal bristle and with several of the distal elements among the bristly pile, a little stouter or stiffer. Hind tibia with short, setate pile and with 1 slender dorsomedial bristle near the middle in both sexes and with a rather stout, dorsolateral bristle quite at the base and an additional bristle beyond the middle; apex with 1 dorsolateral, 1 lateral, 1 ventrolateral, and 2 ventral bristles. Middle femur characteristically with, in the middle of the anterior margin, a dense cluster of very stout, spinous, subtuberculate bristles of varying length and becoming a little more numerous anteroventrally; there are altogether about 25 of these. At the extreme base ventrally is a close-set tuft of 3 slender bristles; middle tibia with along the base and middle of the anterior and anteroventral margin a row of numerous, stout, spinelike bristles, 4 on the basal half, and just beyond the middle a tuft of at least 9 bristles, with additional bristly hairs.

Anterior femur with 6 moderately stout, long, ventral bristles extending from the middle to the base and at the base with a tuft of 4 additional bristles also long and posteroventrally behind these a row of 12 or more quite short, stout bristles. Anterior tibia with 1 stout, quite basal anterobasal bristle and 3 posterodorsal near the middle. There are, besides, 6 exceptionally long, basally stout, attenuate, posterior bristles slightly ventral in position. Anterior basitarsus shorter than the others, slightly longer than the next two segments. Hind basitarsus longer than the next three segments. All tarsi end in stout, sharp claws, strongly bent at apex, thin, strongly spatulate, long pulvilli and short, basally stout, empodium, only half as long as the claw.

Wings: The wings are a little more pointed apically. Marginal cell closed with a short stalk, subcostal cell rather narrow, not expanded; the second submarginal cell takes origin a short distance beyond the discal cell. First posterior cell a little narrowed in the middle, flared apically to more than twice its middle width; lower vein of the end of the discal cell strongly drawn backward; base of second posterior cell moderately expanded; fourth posterior cell closed and stalked, distally convex, very little convex anteriorly and posteriorly. The anal cell is closed and stalked; second basal cell ends in three veins, the middle vein short, alula large, the ambient vein complete.

Abdomen: The abdomen is comparatively robust, nearly as wide as the mesonotum, the sides of the first tergite somewhat swollen laterally. Sides of the first tergite with 3 or 4 long and 3 short bristles; sides of the male tergites with rather long, stiff, bristly pile, only a little shorter dorsally; it is quite abundant and suberect, distinct bristles being absent on these tergites; the end of the rather long, second tergite has a rather wide, pollinose, apilose posterior membrane and the whole basal two-fifths of this tergite is pollinose and apilose; pollen extends over the entire abdomen. In the female the abdominal pile is very much shorter and quite fine, appressed and setate, the lateral fringes of stiff, bristly pile as well as the dense, short, dorsal pile absent, replaced over the whole surface by the very fine, appressed pile. The posterior lateral margins of the female tergites have rather distinct, slender bristles, 4 or 5 on the second and third tergites and 3 to 5 on remaining tergites. Male with seven well developed tergites. The eighth tergite is virtually eliminated dorsally; it is perhaps narrowly visible though hidden by dense, bristly pile and it is very short laterally, where it is perhaps an eighth the length of the seventh tergite. Seventh tergite about half as long as the sixth. Females with seven tergites, the eighth incorporated in the ovipositor.

Male terminalia comparatively large, elongate; the superior forceps bifurcate dorsally beyond the middle, curved towards the midline apically and not rotate, and with large, open space from dorsal aspect. Gonopod quite short; hypandrium very short or concealed. Proctiger erect and protruding; whole cavity of the terminalia widely open from below. Female terminalia short, the eighth tergite rather wide and quite cylindrical or bluntly conoidal dorsally but compressed below on the eighth sternite. Ninth and tenth tergites short and directed downward against the end of the eighth sternite, much as in *Senoprosopis* Macquart. The ninth tergite is exceptionally short. Sternites with rather long, bristly pile in the male; with short, fine setae in the female and some terminal, stout, but short bristles.

Distribution: Oriental: *Hoplopheromerus armatipes* Macquart (1855) [=*shalumus* Walker (1857)]; *hirtiventris* Becker (1925).

Genus *Clephydroneura* Becker

FIGURES 318, 758, 1497, 1506, 2261, 2301, 2483, 2486

Clephydroneura Becker, Ent. Mitt., vol. 14, p. 68, 1925. Type of genus: *Asilus xanthopus* Wiedemann, 1819. Designated by Oldroyd, 1938.

Medium size to rather large, pollinose flies with greatly reduced pile. They have a high, short mesonotum, a high metanotum and prominent, conspicuous male terminalia and the male wing is often greatly expanded and rippled anteriorly. These flies are often pale yellow but some species are dark or blackish. They may be related to the Ethiopian *Synolcus* Loew, from which they are readily separated by the presence of the metanotal patch of bristly hairs. There is a moderate extension of the face but it is confined to the region immediately above the epistoma, leaving the upper part plane with the eye margin, or slightly concave; face bristles or pile tends to be confined to a group of strong elements above the epistoma and confined to the lower half of the face or less than half. Mesonotum and legs relatively bare except for the bristles. The male terminalia large and prominent and rather characteristic. From *Heligmoneura* Bigot it is readily separated by the posteriorly occluded discal cell and type of terminalia. Length 20 to 25 mm.

Head, lateral aspect: The face is scarcely visible in profile on the upper half, but has a low, conspicuous gibbosity on the lower part. Eyes scarcely recessed posteroventrally. The occiput is narrow, a little more thickened near the vertex; the pile is fine, long and scanty through the middle, somewhat more abundant below and bristles are restricted to the upper eye corners and consist of 3 or 4 short, slender bristles. The proboscis is slender, moderately long and at most slightly thickened towards the base; the apex is bluntly rounded and bears a few, fine hairs. Ventral surface below with numerous, fine, long hairs. Palpus slender, cylindrical, of 1 segment with a few, stiff, apical hairs and fine pile except medially. The antenna attached at the upper third of the head and unusually slender; the first segment is elongate and 2½ times as long as the second. Third segment short and slender or oval and only two-thirds as long as the first segment; it bears a short microsegment and a long, slender style with apical bristle and this style is as long as the entire first three segments. Pile of first segment composed of unusually stiff, long, sharp, subappressed setae, 5 or 6 dorsal elements, more numerous elements below; second segment with 4 or 5 setae dorsally and about 6 ventrally; third segment with 1 or more setae dorsally.

Head, anterior aspect: The face below the antenna is about a sixth of head width and slightly divergent below. Face densely micropubescent, the subepistomal region large, long, oblique, very deeply concave and pubescent. The face bears very little pile; there are a few hairs intermixed with numerous, quite long bristles on the gibbosity. Upper bristles slender and directed straight forward, other elements stout and curled downward. There are 5 pairs along the epistomal margin, 2 of which extend halfway down the lateral margins. Front short with 7 or 8 bristly setae or weak bristles laterally. The front is slightly divergent, the vertex a little more convergent. Vertex deeply excavated with vertical sides; ocellarium moderately large with 1 pair of short, slender bristles and 1 pair of stiff hairs. Eye facets strongly enlarged centrally.

Thorax: The thorax is everywhere pollinose. The pile of the mesonotum is exceptionally scanty and limited to a double or triple acrostical row of setae, a similar dorsocentral row and a few other fine setae situated medial to the humerus, the notopleuron and above the wing. Prescutellar area with rather numerous, fine, erect, stiff hairs. Postdorsocentral bristles strong and begin at the wing level. Humerus with fine, erect pile. Stout, long, lateral bristles are present and consist of 2 notopleural, 1 supraalar, 1 postalar, with sometimes other weaker, postalar bristles, and no scutellar bristles. Scutellum thick, convex with distinct impressed rim; surface pollinose with abundant, long, erect, stiff hairs on each side. Propleuron with fine, scanty pile; the pronotum bears 2 pairs of weak bristles. Mesopleuron, upper sternopleuron, pteropleuron and posthypopleuron each with a few, long, erect hairs. Metapleuron with a wide band of long, weak bristles. Metanotum high, abrupt, gently sloping and laterally with distinct, weak bristles and stiff pile. Posterior basalare with a patch of stiff; long setae; tegula with a few, short setae; squama with a multiple fringe.

Legs: All the femora are stout; the anterior and middle pairs are rather strongly thickened, the hind pair slightly thickened but a little more slender toward the base. The dorsal and lateral pile is fine, appressed and setate. Stout, long bristles are present, and on the hind femur they consist of 1 subapical dorsomedial, 1 subapical dorsolateral forming part of a row of 3, and 6 quite long, stout, ventrolateral, 4 longer equally stout, ventromedial bristles restricted to the basal half; trochanters with 3; coxae with only quite weak bristles. The hind tibia has 2 long, slender, pale bristles; 1 stout, black basal lateral bristle; and 1 very long, lateral bristle beyond the middle; and also 2 stout, ventrolateral elements at the middle and beyond. A brush of dense setae extends from the base but is only subappressed, continuing on to the first 3 tarsal segments. Middle femur with 1 stout, posterodorsal apical bristle; also with 2 posterior and 2 anterior bristles, 1 of each group located near the base, the other at the outer third; also 5 exceptionally stout and long anteroventral bristles that tend to interlock with 3 anterior tibial bristles. The middle tibia has 3 posterior, 2 quite long, attenuate, pale posteroventral, and 2 weak dorsal bristles. Anterior femur without the anterior and posterior bristles but with a rather dense ventral fringe of extremely long, delicate bristles or bristly hairs; its tibia has 3 short dorsal elements and 3 exceptionally long, basally stout, posterior bristles; apex with about 10 bristles. Tarsus ends in large, long, truncate pulvilli; long empodium; long, slender, apically bent claw.

Wings: The wings are broad and in the males often greatly expanded, especially in the marginal and submarginal cells, with the costa bulging outward; the subcostal cell may be almost eliminated, its vein overlying the costa through the middle of the wing. Marginal cell closed and narrowly stalked. Both submarginal cells are strongly arched forward and again backward at the apex. Fourth posterior cell closed and unusually strongly convex anteriorly, reducing the middle width of the discal cell by at least a third. The second basal cell ends in two veins; anal cell closed and petiolate; alula large, ambient vein complete. Wing strongly rippled, the apical portion with villi.

Abdomen: The abdomen is comparatively slender, not very long and not as wide as the mesonotum, cylindrical and slightly tapering; the sides of the first tergite are strongly swollen and ridged anteriorly. Pile of abdomen short, appressed, setate along the middles of the tergite, but becoming long, fine and erect laterally. All the tergites bear stout, lateral bristles with 3 or 4 on the first tergite; 2 or 3 on second through fourth tergites; those on the fifth and sixth tergites are much weaker. Sternites with fine, stiff pile and no bristles. Eight tergites are present in the male, the last short. Seven tergites present in the female, the remainder incorporated in the ovipositor. Male terminalia with characteristically elongate but rather slender superior forceps; the proctiger is long, protruded and erect. The short gonopod and claspers tend to be bent or arched downward so that a large space or gap is left from the lateral aspect. Eighth sternite very short, or even concealed, hypandrium short or long but if short it is notched or divided. Aedeagus often exposed and conspicuous. Female terminalia consist of the eighth to tenth segments; all these segments are strongly compressed laterally beginning at the base of the eighth segment but they are completely compressed only at the end of this segment and beyond; these three segments are also progressively reduced in height. Eighth segment as long as the sixth and seventh combined.

Distribution: Oriental: *Clephydroneura annulatus* Fabricius (1775) [=*barium* Walker (1849)]; *apicalis Oldroyd* (1938); *bengalensis* Macquart (1838); *brevipennis* Oldroyd (1938); *cochinensis* Oldroyd (1938); *cristata* Oldroyd (1938); *distincta* Oldroyd (1938); *duvaucelii* Macquart (1838); *exilis* Oldroyd (1938); *flavicornis* Macquart (1838) [=*iamenes* Walker (1849)], *flavicornis fusca* Oldroyd (1938); *gymnura* Oldroyd (1938); *minor* Oldroyd (1938); *pulla* Oldroyd (1938); *semirufa* Oldroyd (1938); *sundaicus* Jaennicke (1867); *xanthopus* Wiedemann (1819), *xanthopus wulpi* Oldroyd (1938).

Genus *Anarmostus* Loew

FIGURES 393, 759, 1617, 1618, 2254, 2306, 2362, 2444

Anarmostus Loew, Abh. Naturw. Ver. Halle, vol. 2, p. 142, 1860. Type of genus: *Asilus iopterus* Wiedemann, 1828, by original designation.

Flies distinguished by the robust, apically tapered abdomen, the short pile and the posterior mats of pile on the first 4 tibiae, the greatly thickened, anterior and posterior basitarsi and the broad wings. These flies suggest in their appearance the genus *Mallophora* Macquart. The claws are sharp. Length 15 to 20 mm.

Head, lateral aspect: The face on the upper half is not at all visible in profile; the lower portion is slightly protuberant and gently rounded. The eye below is anteriorly and posteriorly recessive, therefore somewhat bluntly pointed. The occiput is moderately thick but only through the middle and lower portion; on the upper third it recedes to the eye level; pile almost absent on the upper half, but more abundant below and rather long; bristles begin in the middle, where there are 5 or 6 weak to moderately stout pairs; on the upper third there are about 7 or 8 rather long, scarcely curved, exceptionally stout bristles. The proboscis is of moderate size, rather strongly tapered to a rounded point apically; the dorsal ridge is conspicuous and high, the whole compressed laterally, though only to a moderate extent; the base is at most only slightly swollen and bears only a few long hairs; at apex with stiff hairs. The proboscis is directed downward. Palpus long, cylindrical, with 5 quite stout, long, apical bristles and shorter hairs ventrally and laterally. The antenna is attached at the upper third of the head. The first two segments are of equal length, each about twice as long as wide. Third segment laterally compressed and at most slightly wider than the second segment and as long as the first two combined. The style of the third segment is about two-thirds as long as the segment and bears a minute spine. There is a short microsegment present. First and second segments with several, short, stiff setae above and below; third segment with 3 or 4 long setae dorsally.

Head, anterior aspect: The face below the antenna is a sixth the head width, widening below to a fourth the head width. Subepistomal area moderately large, strongly oblique, slightly convex and bare. Face micropubescent with only 2 or 3 hairs along the epistomal margin. Bristles are restricted to the ventral gibbous portion. They are all long and stout and occupy a triangular area with the upper elements directed straight forward and curved, the lower bristles nearly straight and directed obliquely downward. There are 2 long, stout bristles on the sides of the subepistoma. Approximately 20 bristles present on the lower face. The front is slightly divergent, the vertex slightly convergent. Sides of front with 6 pairs of stout, short bristles, among them 1 long bristle. Vertex moderately excavated with nearly vertical sides; occllarium of moderate size, bearing 2 pairs of minute bristles. Eye facets only slightly enlarged.

Thorax: The mesonotum and pleuron pollinose, the pile of the mesonotum is very scanty, fine, appressed and setate, more erect on the anterior margin and upon the humerus which bears 1 or 2 slender bristles. There is a double acrostical row of setae followed by a bare stripe; the dorsocentral elements are differentiated at the humeral level; these bristles are moderately long at the notopleural level; there are about 7 long, dorsolateral bristles behind the transverse suture. Stout, long, lateral bristles are present as follows: 1 posthumeral, 2 notopleural, 3 supraalar, 1 suprapostalar, 3 postalar and 1 pair of scutellar bristles. Scutellum thick, with impressed rim; the disc is pollinose, with some 8 pairs of fine, sharp, bristly hairs. Propleuron with abundant, long, fine pile especially below. Pronotum with fine pile and 3 pairs of long, stout bristles. Upper and posterior mesopleuron with a few, fine, erect hairs. Upper sternopleuron at most with 1 or 2 minute hairs. Pteropleuron, however, dorsally with a patch of 12 or 14 weak bristles. Posthypopleuron with 3 long, slender bristles and a patch spot of pubescence. Metapleuron with a wide band of about 20 slender, exceptionally long bristles. Metanotal slopes exceptionally pilose, with an extensive patch of stiff pile. Lateral and ventral metasternum with pile; postmetacoxal area membranous; posterior basalare with 4 or 5 bristles; squama with a multiple fringe. Prosternum dissociated.

Legs: All the femora are stout; the anterior and middle pairs are distinctly thickened, but the thickening is distributed through the middle. All the femora are characterized by their glassy, polished appearance with pile almost absent ventrally and posteriorly. Hind femur distinctly but gently dilated from the base to the apex; it bears scanty, appressed pile above. Bristles consist of 1 pair of long, exceptionally stout, dorsal, subapical bristles and 1 equally stout bristle close but proximal and on the same plane and sometimes a third element dorsally just beyond the middle of the femur; basal half with 2 more slender bristles. Hind tibia quite stout, slightly attenuate basally, with 1 stout dorsal in the middle, 3 dorsolateral, 1 ventrolateral bristle near the apex. The brush of setae is unusually dense, long and extends to the base and also on to the first two tarsal segments. Hind basitarsus unusually stout and robust, its bristles spinous; it is fully three or more times as long as the second segment. Middle femur with a very long, stout, posteroapical bristle and a few, fine hairs ventrally below towards the base. Middle tibia with 2 short dorsal, 1 long, anterodorsal near the apex and 3 or 4 ventral bristles besides before or at the middle 2 basally stout, oblique, finely attenuate bristles. Whole posterior surface and base dorsally with a dense mat of appressed, long, coarse, silvery pile. Anterior femur and tibia similar to the middle pair; the femur lacks the posteroapical bristle, but has a dorsoapical bristle. Anterior basitarsus short, exceptionally robust and stout, not quite as long as the next two segments. Tarsi end in well developed pulvilli, exceptionally robust stout claws which end more or less bluntly and are never sharp, and with the empodium short, greatly swollen and wide laterally.

Wings: The wings are broad; strongly tinged with brown and have purple reflections. Marginal cell closed with a long stalk. The anterior branch of the third vein ends above the wing apex; the second submarginal cell is swollen anteriorly at the base. First posterior cell narrowed in the middle by the second posterior cell, the lower vein of the discal cell pulled backward toward the base; fourth posterior cell closed with a long stalk. Anal cell closed with a long stalk, second basal cell ends with two veins; alula large, ambient vein complete.

Abdomen: The abdomen is distinctly shorter than the wing and robust; it is subcylindrical with nearly parallel sides and not quite as wide as the mesonotum and tapered on the end of the fifth segment. The first tergite is laterally swollen. Pile of abdomen fine, abundant and flat appressed; it is somewhat longer and erect but scanty on the sternites. The bristles present are extremely weak and slender: 4 or 5 bristles on the first tergite and along the posterior margin of the third and fourth tergites submedially there are 3 or 4 pairs of long, slender, appressed bristles. There are seven tergites in the male, the eighth quite concealed. Females with seven tergites, the eighth distinctly incorporated in the ovipositor. The male terminalia comparatively small but only moderately elongate. The superior forceps are separated even at base with simple, slightly narrowed apex which comes to the midline; the proctiger is long, protruded and erect. The gonopod is more than half as long as the upper forceps with short but sharp apical process and both these structures are directed straight backward. The hypandrium is short and transverse. The genital cavity is open but greatly narrowed. Female terminalia short and conical, slightly compressed laterally.

Distribution: Neotropical: *Anarmostus iopterus* Wiedemann (1828).

Genus *Asilus* Linné

Figures 380, 765, 1622, 1629, 2290, 2316, 2461, 2465

Asilus Linné, Systema naturae, ed. 10, pp. 605, 227, 1758. Type of genus: *Asilus crabroniformis* Linné, 1758. Designated by Latreille, 1810, the third of 12 species.

Medium size to large flies with elongate, tapered abdomen and a prominent, bristle-covered gibbosity on the lower face. On the abdomen bristles are characteristically restricted to the first tergite but may be rarely present on the second tergite. Species with bristles beyond the second tergite fall into other genera. The ovipositor is cylindroid and conical. On the wing the anterior branch of the third vein ends shortly before the apex of the wing and the posterior branch shortly behind the apex. The base of the second posterior cell tends to be abruptly and conspicuously widened in comparison with the end of the discal cell; the metanotal callosity is densely pilose or bristly. Length 16 to 28 mm.

Head, lateral aspect: The head is of medium length, the face moderately developed on the upper half and sometimes concave, with on the lower half of face a rather prominent gibbosity or extension which is developed gradually. The occiput is thick, prominent throughout and especially prominent below due to the posterior ventral recession of the eye on the lower third of the eye. It has numerous bristles, beginning at the middle of the head and becoming more stout at the vertex; lowest elements are in a single row, the upper elements clustered. The proboscis is long, stout and robust basally, nearly plane or slightly concave on the lower surface; it is rather strongly attenuate and pointed on the apical fifth and the dorsal surface is slightly arched. The apex bears bristly pile both above and below and long, bristly hairs ventrolaterally on the basal half; proboscis generally directed forward. Palpus of one segment, conspicuous, and robust with a trace of the basal segment. The antenna is attached at the upper third of the head and comparatively elongate, especially on the third segment. The first and second segments are long with the second a little shorter than the first; the first segment bears numerous, stiff bristles, appressed on the ventral and lateral surfaces and a few dorsal bristles at the subapex. The third antennal segment is as long or slightly longer than the first two segments combined; it is widest near the base and attenuate with a distinct microsegment and the style is as long as, or somewhat shorter than the third segment.

Head, anterior aspect: The head is of moderate width, less wide than the mesonotum. The face below the antenna is approximately a fourth the head width, rather strongly divergent below. The cheeks are extensive and, together with the face, pubescent. Pile is absent on the upper half of the face in the type of genus and the gibbous portion is densely beset with quite stout, long bristles which extend down the sides of the large, oblique, subepistomal area. Front pollinose with a subocular and an anterolateral row of stout bristles. The front is wider than the upper face, and the vertex is slightly narrowed, moderately excavated, with a rather large ocellarium which bears 3 pairs of bristles between the ocelli and 1 pair behind the ocelli; all ocelli large.

Thorax: The mesonotum is moderately high, comparatively long and only slightly convex, except near the scutellum and anteriorly. Surface of mesonotum pollinose, rather densely covered with short, stiff, subappressed setae, undifferentiated anteriorly but with prominent dorsocentral bristles beginning at the anterior plane of the postalar. There are usually 4 to 6 pairs of such long, postdorsocentral bristles. Humerus with bristly pile, the lateral complement of long, stout bristles consists of 2 notopleural with sometimes weak, posthumeral bristles, 1 supraalar, 1 or 2 suprapostalar, 3 or 4 postalar and 2 to 5 pairs of scutellar bristles. The scutellum is moderately thick with distinctly impressed rim and numerous, erect setae or bristly hairs. Pronotum with 5 or 6 pairs of bristles. The upper margin of mesopleuron and its posterior margin likewise with bristly hairs. Upper pteropleuron with distinct, stout bristles and some hairs. Posthypopleuron with at least 1 stout bristle, the metapleuron with a vertical row of 5 stout bristles and some more slender elements. Upper sternopleuron with numerous, long, stiff hairs and others along the posteroventral margin. Metanotal callosity densely covered with bristles and pile. Prosternum narrowly connected anterolaterally with the lateral propleuron. Anterior basalare with pollen only; posterior basalare with a few, fine hairs; tegula with setae.

Legs: The femora are quite stout, only the first four a little swollen and all of them moderately elongate. The pile is abundant, subappressed and setate, without conspicuous fringes of long pile on either femora or tibiae except on the anterior tibia where the ventral and posteroventral surfaces bear moderately long, stiff hairs. Bristles are numerous and stout, the hind femur bears 5 lateral bristles, 7 ventrolateral, 6 ventral, 4 ventromedial and usually 2 or 3 medial bristles near the base; dorsally at the apex and subapex there is a stout bristle on either side. The hind tibia bears 3 dorsolateral, 1 of them basal, 1 dorsomedial near the middle, 3 or 4 lateral bristles and 4 prominent, ventrolateral bristles; the apex bears 10 bristles. Middle femur with 3 anterior bristles, 3 or 4 anteroventral bristles, and 12 to 15 ventral bristles, besides 2 prominent, posterodorsal elements at the apex and 1 opposite on the anterior side. The middle tibia bears 4 anterodorsal, 3 anteroventral, 3 posterodorsal, 4 posterior and 2 or 3 posteroventral bristles. The anterior femur bears in the genotype a conspicuous posterodorsal row of 6 stout bristles and a ventral row of 6 or 7 bristles, besides other shorter ones. The anterior tibia is rather similar to the middle pair with 4 stout, anterodorsal bristles on the basal third, 8 or 9 short posterodorsal bristles and 3 conspicuous, long, posteroventral bristles. Anterior basitarsus longer than the next 2 segments, the hind basitarsus as long as the next 3 segments. Claws stout, sharp, strongly bent at the apex; the pulvilli large, the empodium bladelike.

Wings: The wings are often tinged with yellow or brown; the anterior branch of the third vein ends shortly before the wing apex, the posterior branch shortly behind. The base of the second submarginal cell is widened both above and below the third vein; the base of the second posterior cell is abruptly widened and at least twice as wide as the end of the discal cell. Posterior crossvein much longer than the end of the discal cell. Fourth posterior cell closed with a rather long stalk. Alula large, the ambient vein complete.

Abdomen: The abdomen is stout and elongate, rather strongly tapered in both sexes from the end of the fourth segment. Bristles are restricted to the sides of the first tergite with sometimes a patch, as in the type of genus, in the middle of the lateral margin of the second segment but none on remaining segments. Pile moderately abundant, fine, subappressed and setate but with long, coarse pile laterally on the first and sometimes the second segment and sometimes shorter bristly pile laterally on the third segment. Sternites with a few scattered, stiff hairs on the first 3 or 4, and setae beyond. Males with seven tergites and a trace of the eighth only laterally. Females with seven segments not incorporated in the ovipositor. The male terminalia comparatively small; with only moderately long superior forceps, broad at base, slightly narrowed and bluntly rounded apically and directed somewhat obliquely upward. The gonopod is about two-thirds as long and also turned upward. Proctiger protruding and erect. The hypandrium is well developed and transverse apically. Claspers elongate; cavity widely open below. Aedeagus with three fine prongs. The female ovipositor consists of the conical, subcylindroid eighth segment which is as long as the seventh segment, with stiff, sharp, erect, lateral and dorsal bristles and of the shorter, much smaller, ninth and tenth segments, which are also much more narrow. Tenth segment free.

While this genus taken in the wide sense is exceptionally large and, as presently understood, world wide in distribution, there are comparatively few species that fall into *Asilus* in the strict sense and these are much more limited in distribution. A few are found in North America; the type of genus and several others are from Europe. There remains a large assemblage of older species known only from the types; these have not been restudied critically and we do not know where they belong; until such time as they are re-examined they must be listed under *Asilus*.

Distribution: Nearctic: *Asilus autumnalis* Banks (1914); *blantoni* Bromley (1940); *californicus* Hine (1909); *citus* Hine (1918); *compositus* Hine (1918); *delicatulus* Hine (1918); *fattigi* Bromley (1940); *formosus* Hine (1918); *floridensis* Bromley (1940); *frosti* Bromley (1950); *fulviventris* Schaeffer (1916); *gilvipes* Hine (1918); *hubbelli* Bromley (1950); *hypopygialis* Schaeffer (1916); *knulli* Bromley (1940); *persimilis* Banks (1920); *platyceras* Hine (1922); *sackeni* Banks (1920); *schuhi* Bromley (1940); *sericeus* Say (1823) [=*herminius* Walker (1855)]; *vescus* Hine (1918).

Neotropical: *Asilus albipilosus* Macquart (1846); *antiphus* Walker (1849); *apicalis* Bellardi (1861); *aureomaculatus* Bromley (1932); *baletus* Walker (1849); *barbiventris* Rondani (1850); *brachypterus* Philippi (1865); *bromleyanus* Carrera and d'Andretta (1950); *bullatus* Bromley (1929); *calatinus* Walker (1849); *chrysauges* Osten Sacken (1887); *clavatus* Macquart (1838); *coeruleiventris* Macquart (1846); *colombiae* Macquart (1838); *concepcionensis* Bromley (1932); *consanguineus* Macquart (1846); *crassus* Bromley (1932); *cuyanus* Lynch Arribálzaga (1880); *eritrichus* Philippi (1865); *gammaxus* Walker (1851); *gavius* Walker (1851); *gerion* Walker (1849); *gertschi* Bromley (1951); *hebes* Walker (1855); *helix* Bromley (1935); *herdonius* Walker (1851); *?heydenii* Wiedemann (1828); *imitator* Lynch Arribálzaga (1883); *inamatus* Walker (1860) [=*inauratus* Aldrich (1905)]; *incomptus* Philippi (1865); *infuscatus* Bellardi (1861); *lebasii* Macquart (1838); *leonides* Walker (1851); *loewi* Bromley (1929); *longiusculus* Walker (1855); *luctuosus* Macquart (1838); *lutipes* Wiedemann (1828); *lycorius* Walker (1851); *mayi* Bromley (1932); *megacephalus* Bellardi (1861); *megastylus* Philippi (1865); *?melanacrus* Wiedemann (1828); *mellipes* Wiedemann (1828); *mexicanus* Macquart (1846); *modellus* Bromley (1932); *mydas* Brauer (1885); *neriacensis* Bromley (1951); *nigrinus* Macquart (1848); *occidentalis* Philippi (1865); *pamponeroides* Bromley (1932); *perrumpens* Walker (1860); *peticus* Walker (1849); *poecilopus* Philippi (1865); *ramsdeni* Bromley (1929); *sericans* Walker (1857); *servillei* Macquart (1834); *sexmaculatus* Walker (1855); *tatius* Walker (1851); *tenuiventris*

Macquart (1855); *?therevinus* Rondani (1850); *therimachus* Walker (1851); *tibialis* Rondani (1850); *tristis* Wiedemann (1828); *valdivianus* Philippi (1865).

Palaearctic: *Asilus ?aquaticus* Scopoli (1763); *?auripilus* Meigen (1830); *baikalensis* Becker (1926); *barbarus* Linné (1758); *?bicinctus* O. F. Müller (1776); *bicolor* Olivier (1789); *?bipartitus* Macquart (1849); *?bojus* Schrank (1803); *bolivari* Arias (1912); *bombylius* Villers (1789); *?cinereus* Scopoli (1763); *crabroniformis* Linné (1758) [=*algirus* Schrank (1803) not Linné]; *danicus* Schrank (1803); *?enitens* Walker (1871); *erax* O. F. Müller (1776); *fallaciosus* Matsumura (1916); *fasciatus* Rossi (1790); *filiformis* Olivier (1789); *flavipes* Villers (1789); *?fulvus* Rossi (1790); *?fuscipes* Villers (1789); *glaucus* Zetterstedt (1855); *?gracilipes* Meigen (1820); *?ignavus* O. F. Müller (1764); *?intermedius* Holmgren (1852); *karafutanis* Matsumura (1911); *limbipennis* Macquart (1855); *?litoralis* Contarini (1847); *lucidus* Pallas in Wiedemann (1818); *?lusitanicus* Linné (1767); *?maculatus* O. F. Müller (1764); *maculifemora* Macquart (1855); *?marginatus* Fourcroy (1785) [=*glaber* Olivier (1789)]; *?marginatus* Meigen (1820); *?marginellus* Schrank (1803); *?maurus* Linné (1758); *?melanotrichus* Brullé (1832); *misao* Macquart (1855); *?morio* Linné (1758); *nebulosus* Matsumura (1911); *?nigerrimus* Schrank (1781); *?parvulus* Meigen (1820); *?platytarsatus* Contarini (1847); *?pubescens* Gmelin (1790); *?pumilus* Macquart (1834); *?punctatus* Macquart (1834); *ricardoi* Bromley (1935); *?sabulosus* Contarini (1847); *?saulcyi* Macquart (1838); *?striatus* Gmelin (1790); *?tarsosus* Fourcroy (1785); *?tessellatus* Brullé (1832); *?tibialis* Gimmerthal (1847); *?tibialis* Pallas in Wiedemann (1818); *tingitanus* Boisduval (1835); [=*tangeri* Walker (1855)]; *?versicolor* Meigen (1830); *?villosus* Gmelin (1790); *viridescens* Villers (1789); *viridis* Fourcroy (1785).

Ethiopian: *Asilus alastor* Walker (1849); *albitarsatus* Macquart (1834); *atrimaculatus* Hobby (1934); *deformis* Walker (1871); *dioctriaeformis* Macquart (1846); *forficula* Macquart (1846); *gabonicus* Macquart (1855); *incisuralis* Macquart (1838); *natalicus* Macquart (1855); *nigribarbis* Macquart (1846); *rubripes* Macquart (1834); *schedius* Walker (1849); *scutellatus* Macquart (1834).

Oriental: *Asilus albibarbis* Macquart (1849); *albispina* Thomson (1869); *appendiculatus* Macquart (1848); *?atripes* Fabricius (1805); *barbatus* Doleschall (1857); *bifasciatus* Olivier (1789); *claripes* Macquart (1838) [=*clavipes* Walker (1855)]; *depulsus* Walker (1864); *ephippium* Macquart (1855); *fusiformis* Walker (1856); *hircus* Fabricius (1805); *hopponis* Matsumura (1916); *jamenus* Walker (1849); *laetus* Wiedemann (1824); *latifascia* Walker (1856); *lineosus* Walker (1856); *?minusculus* Rondani (1875); *nigrimystaceus* Macquart (1849); *nudipes* Macquart (1849); *opulentus* Walker (1851); *orientalis* Ricardo (1922); *paterculus* Walker (1851); *penultimus* Walker (1851); *praefiniens* Walker (1851); *pusio* Wiedemann (1819); *rufibarbis* Macquart (1849); *trifarius* Macquart (1838).

Australian: *Asilus alicis* Walker (1855); *alligans* Walker (1855); *aureus* White (1917); *australis* Macquart (1847); *belzebul* Wiedemann (1828); *blasio* Walker (1849); *centho* Walker (1849); *condecorus* Walker (1862); *discutiens* Walker (1851); *elicitus* Walker (1851); *exilis* Macquart (1838); *ferrugineiventris* Macquart (1849); *filiferus* Macquart (1846); *fulvipubescens* Macquart (1849); *genitalis* Hardy (1920); *hyagnis* Walker (1851); *inquisitor* Nowicki (1875); *introducens* Walker (1860); *jacksonii* Macquart (1838); *laticornis* Macquart (1846); *longiventris* Macquart (1855); *luctificus* Walker (1851); *murinus* Macquart (1838); *mutilatus* Walker (1855); *nigrinus* Macquart (1849); *normalis* Walker (1862); *pelago* Walker (1849); *rubrithorax* Macquart (1838); *ruficoxatus* Macquart (1849); *rufometatarsus* Macquart (1855); *setifemoratus* Macquart (1855); *smithii* Hutton (1901); *superveniens* Walker (1859); *trachalus* Walker (1851); *villicatus* Walker (1851).

Oceania: *Asilus obscurellus* Macquart (1849); *okinawensis* Matsumura (1916).

Country unknown: *Asilus ?albifrons* Gmelin (1790); *antiorus* Walker (1849); *balacrus* Walker (1849); *coras* Walker (1849); *corissus* Walker (1849); *corymeta* Walker (1849); *corythus* Walker (1849); *eanes* Walker (1849); *echepolis* Walker (1849); *ferrugineus* Olivier (1789); *gorgasus* Walker (1849); *halmus* Walker (1849); *inumbratus* Walker (1851); *longicella* Macquart (1849); *?maculatus* Meigen (1804); *micropterus* Macquart (1838); *ochesius* Walker (1849); *ochripes* Macquart (1838); *penarius* Walker (1849); *rufipes* Macquart (1838); *sophus* Walker (1849); *tamphilus* Walker (1849); *thimbro* Walker (1849); *triopas* Walker (1849); *vibulanus* Walker (1849); *virgo* Wiedemann (1828).

The Australian species in the above list will probably all fall within *Neoaratus* Ricardo, *Cerdistus* Loew, or *Neoitamus* Osten Sacken.

Dipterists interested in Australian Asilinae are referred to Ricardo (1913) for her comments on possible synonymy of species, especially those of Walker. I have accepted much of the synonymy she has indicated, with some exceptions in closely related genera which need further study, like *Neoaratus* Ricardo, *Neoitamus* Osten Sacken, *Cerdistus* Loew, and *Asilus* Linné, *sensu stricto*.

Several dipterists have commented upon larva or pupa or species of *Asilus*, in the restricted sense. These are Frisch (1721), Brauer (1883), Xambeu (1899), and Melin (1923), who illustrate larva and pupa of *Asilus crabroniformis* Linné.

Genus *Rhadiurgus* Loew

FIGURES 309, 779, 1620, 1621, 2310, 2329, 2364, 2379

Rhadiurgus Loew, Linnaea Entomologica, vol. 4, p. 133, 1849. Type of genus: *Asilus variabilis* Zetterstedt, 1838, by monotypy.

Flies characterized by the prominent, gibbous face which is polished, shining black over the middle part of the face. General appearance rather like *Machimus* Loew. Bristles absent along the posterior margin of the abdominal tergites but dorsocentral bristles are present posteriorly on the mesonotum. Metanotal callosity pilose. Occipital bristles strong. The antenna has a microsegment and short style. The upper and lower parts of the male terminalia tend to be divergent. Length 15 mm.

Head, lateral aspect: The face in profile is very short on the upper third and scarcely visible but rather rapidly expands to a large, conspicuous, rounded gibbosity. Eye anteriorly recessive on the lower fifth. The occiput is thick and well developed and extends undiminished to the vertex; its pile is long and fine and composed of several rows on the upper and middle portion and becomes longer, more abundant and almost bushy on the lower portion of the occiput and still longer medial to the eye margin. Bristles begin below the middle of the head and consist of 15 pairs, of which the uppermost 5 lie behind the vertex closely adjacent to one another and are exceptionally stout, though rather short and straight or barely curved. Proboscis small, slender, cylindrical, with obtuse apex bearing a few, stiff hairs directed away from the tip; the base below has a number of long, fine hairs and is slightly and gradually swollen when viewed from above; it is slightly compressed dorsoventrally, and there is a high, dorsal ridge. Palpus of one segment bearing numerous, long, stiff hairs, except medially. The antenna is attached at the upper third of head and is of moderate length but slender; the first segment is a little more than twice as long as the second. The third segment is slender, subcylindrical and slightly longer than the combined length of the first two segments; it has a short microsegment, the thick style is barely more than half as long as the third segment and bears an apical spine. Pile of first segment composed of stiff setae, long ventrally with a single, rather long, moderately stout bristle; second segment with a few setae above and below; third segment with 1 or 2 setae dorsally.

Head, anterior aspect: The face below the antenna is more than a fifth the width of the head and divergent below. Subepistomal area large, oblique, nearly plane, bare and with a flared ridge on either side. Face micropubescent only laterally and across the entire ventral half, leaving a large bare spot above; there are a few bristly hairs only along the lower lateral margin. Whole middle of face upon the gibbosity with a triangular patch of numerous, stout, long, strongly curved bristles, the upper elements, black, directed outward and downward; the middle and lower elements, white, are directed obliquely downward; about 40 or 50 bristles present altogether. Front slightly divergent, the vertex slightly convergent; front bare, except laterally and with a lateral band of about 10 slender bristles. Vertex moderately excavated with slanting sides; ocellarium large with 6 or 7 pairs of moderately stout bristles. Eyes with central facets enlarged.

Thorax: The mesonotum and pleuron pollinose; pile of mesonotum fine, basally stout, subappressed and setate; the acrostical setae lie in 2 or 3 rows followed by a bare stripe. Dorosolateral area undifferentiated anteriorly but at the notopleural level are 9 moderately long, stout bristles on each side. Humerus pilose. Lateral mesonotal bristles long and stout, consisting of 2 notopleural, 1 postsupraalar, 1 suprapostalar, 2 to 4 postalar and 2 pairs of scutellar bristles. Scutellar disc thick, convex, with impressed rim and with a few, slender, erect, bristly hairs. Propleuron with scattered, long, stiff pile; pronotum with 5 pairs of stout, sharp, moderately long bristles. Upper mesopleuron only with a few, scattered, fine hairs. Upper sternopleuron with 10 or 12 scattered hairs; upper pteropleuron with a few hairs; posthypopleuron with 2 or 3 fine, long, erect hairs; metapleuron with 4 or 5 slender bristles. Metanotal slopes and the metasternum with pile; postmetacoxal area membranous; tegula pubescent only; squama with a multiple fringe.

Legs: Anterior and middle femora stout and slightly thickened, the lower margin of the middle femur plane. Middle femur with 2 stout bristles anteriorly and 1 other at the apex, 2 at the apex posteriorly and 4 or 5 weak, slender bristles ventrally. Middle tibia with 2 anterodorsal, 2 dorsal, 4 posterior, 2 posteroventral and 2 ventral bristles. Anterior femur with 2 stout, long, sharp, curved, oblique bristles posterodorsally in the middle, 1 anteriorly at apex and a ventral fringe of 12 to 14 fine, long, bristly hairs. Anterior tibia with 5 or 6 short dorsal, 3 or 4 very slender posterior and 2 long, stout, posteroventral bristles; apex with 12 bristles. Tarsi end in large, thin pulvilli with distinct, double ribs; empodium two-thirds as long as claw; claws slender, sharp, curved at the base.

Wings: The wings are hyaline, the marginal cell closed and stalked; the anterior branch of the third vein ends close to or at the wing apex; the second submarginal cell is slightly narrowed across the middle. First posterior cell narrowed by the base of the second posterior cell and the base of the second submarginal cell. Fourth posterior cell closed and stalked; lower end of discal cell pulled back toward the base; fourth posterior cell only slightly convex anteriorly, anal cell closed; second basal cell ends in three veins, the middle vein short. Marginal and submarginal cells rather wide, but the costa not expanded. Alula large, ambient vein complete.

Abdomen: The abdomen is cylindrical and slightly tapered; the sides of first tergite strongly swollen and convex; abdomen slightly longer than the wings; Eight tergites present in the male, the eighth about half as long as the seventh. Pile of abdomen scanty, fine, appressed and setate with a little long, erect pile basally on the sides of the first and second tergites. Sternites with long, fine pile on the second and third, among which are some long, stiff, bristly hairs. The bristles of the abdomen are extremely weak and scarcely amount to more than stiff hairs; there are 6 or 7 on the sides of the first tergite and lateral patches of rather numerous, appressed, long setae or bristly pile on the sides of all the tergites and to some extent equally weak, bristly pile along the lateral posterior margin. Male terminalia large, conspicuous, the superior forceps elongate and with a large, dorsal opening formed by the apical processes curving to the midline. Terminalia not rotate and of open type below exposing the aedeagus.

Distribution: Palaearctic: *Rhadiurgus variabilis* Zetterstedt (1838).

Ethiopian: *Rhadiurgus notatus* Bigot (1891).

Oriental: *Rhadiurgus bfidus* Fabricius (1805).

In this genus Melin (1923) describes and illustrates the egg, larva and pupa of *Rhadiurgus variabilis*.

Genus *Astochia* Becker

FIGURES 376, 780, 1614, 1615, 2341, 2352, 2403, 2405

Astochia Becker, *in* Becker and Stein, Ann. Mus. Zool. Acad. Imp. St. Pétersbourg, vol. 17, p. 538, 1913. Type of genus: *Astochia metatarsata* Becker *in* Becker and Stein, 1913, by monotypy.

Rather large flies with a short, wide head. The abdomen is robust at the base but narrower on the terminal segments. They are easily recognized by the stout, anterior basitarsus and in males by the divergent, dorsal and ventral portions of the terminalia and in females by the long, extensive, slender, laterally compressed ovipositor, which contains five segments. Related to *Neoitamus* Osten Sacken. Length 16 to 30 mm.

Head, lateral aspect: The head is comparatively short and wide, the eyes strongly flattened in front. The face is nearly plane with the eye on the upper half with a low, gently rounded elevation below; it is a little more prominent because of the recession of the eye. Occiput moderately prominent and the eye strongly posteroventrally recessive on the lower fourth. The pile of the occiput is dense, long and fine ventrally, more coarse along the middle and above, and stout bristles are usually restricted to 3 to 5 pairs placed dorsally near the upper eye corners. The proboscis is of medium size, rather strongly tapered and pointed on the outer fifth and half of this portion bears long, stiff, bristly hairs. It extends well beyond the face and is generally held obliquely or even nearly horizontally forward; the base is a little swollen. Palpus large, cylindrical, with apical and terminal bristles, and stiff hairs extending to the base. The antenna is attached at the upper third of the head and moderately long; the first segment is distinctly longer than the second. The third segment is widest near the base, gently tapered to a narrow apex and is approximately as long as the combined length of the first two segments; it is generally no thicker at any point than the second. A microsegment is absent and the style is almost as long as the first three segments, with bristle at the apex. On the first two segments bristly hairs are chiefly distributed along the ventral surface and dorsally at the apex.

Head, anterior aspect: The head is wide; the face below the antenna is about a seventh the head width and strongly divergent below. The face is densely pubescent and generally without pile on the upper half; the low gibbosity bears numerous, rather slender bristles and long, bristly hairs over its medial portion. The lower group of bristly hairs is often whitish with some of its elements moderately stout, the more dorsally placed, slender bristly hairs are often black; similar elements are continued down the sides of the large, oblique subepistoma. Cheeks moderately prominent with a deep, lateral groove. The front is small, pubescent, the subocular margin has a row of slender bristles or bristly hairs continued on to the vertex, and medial to this row anteriorly is a patch of 7 or 8 bristly hairs. The front is slightly divergent; the vertex is barely narrowed, moderately excavated with slanting, bristly, pilose sides; the ocellarium is comparatively high, with vertical sides; a pair of slender bristles lies between the ocelli and sometimes other hairs, and 4 or 5 pairs of bristly hairs lie behind the ocelli.

Thorax: The mesonotum is moderately high, the surface pollinose and rather widely covered with scattered, fine setae and bristly pile. There is a well differentiated, broad band of acrostical pile and dorsocentral elements are differentiated only behind the suture and are usually quite slender, with sometimes 1 or 2 stout elements. Humerus with long pile. The lateral complement of long, stout bristles contains 2 notopleural, 1 supraalar, 1 suprapostalar, 2 to 3 postalar, and 2 to 5 pairs of scutellar bristles. Scutellum convex but with distinctly impressed rim. The disc is coarsely or finely pubescent and with scanty, erect, fine, bristly pile. Pronotum with 3 or 4 bristles generally weak. Mesopleuron copiously, long, erect pilose over most of its surface and also with abundant pile on the upper sternopleuron, pteropleuron; numerous, long, bristly hairs on the posthypopleuron. Posterior basalare with a tuft of bristly pile. Metapleuron with a vertical band of numerous, slender bristles and bristly hairs. Metanotal callosity with a large patch of coarse, erect pile. Prosternum dissociated; metasternum pilose; the postmetacoxal area membranous.

Legs: The legs are unusually elongate for members of this subfamily, especially the hind femur and tibia. The hind femur is more slender basally and is slightly thickened distally; of the three pairs, the middle pair is the more swollen, its thickness increased only dorsally. Pile of the legs abundant, appressed and setate dorsally with the posteroventral surface of the first four femora bare. Bristles are quite stout, but are markedly reduced; the hind femur bears along the middle, 2 or 3 dorsolateral bristles, and dorsally at the subapex a stout, conspicuous bristle on each side, but none at the apex. Ventral surface of this femur with a moderately dense fringe of pile of medium length, sometimes concentrated on the outer half. The hind tibia bears a stout, dorsolateral bristle at the base, 1 or 2 at the middle, a dorsomedial bristle near the middle, and at the base often 3 or 4 long, stout, ventral bristles closely set together; it also bears a ventrolateral fringe of 15 or more slender bristles or bristly hairs, more or less confined to the basal two-thirds. Middle femur with a conspicuous, anterior bristle at the outer fourth and 1 posterodorsally at the apex; its tibia has 1 bristle dorsally beyond the middle, or sometimes 2 and generally with no other bristles. Sometimes there is a median posterior bristle.

Anterior femur with a fringe of exceptionally slender bristles and bristly hairs ventrally. The anterior tibia has a conspicuous row of 4 or 5 dorsal bristles and 1 basal anterodorsal element, besides 2 posteroventral bristles. All the basitarsi are stout with stubby, spike-like bristles; the hind basitarsus is long as the next three segments; the anterior basitarsus at least longer than the next two and characteristically and conspicuously swollen and stout. Claws stout, sometimes rather blunt at the apex, but generally moderately sharp, pulvilli and empodium well developed. Lateral surfaces of coxae with bristles weak or absent and the posterior trochanters likewise.

Wings: The wings are often tinted with pale brown or yellowish; the marginal cell is closed with a moderately long stalk and is very little widened. The anterior branch of the third vein ends a little above the wing apex; the posterior branch is strongly sinuous and ends a like distance behind the wing apex. The basal half of this cell is widened, partially occluding the cell behind. The base of the second posterior cell arises obliquely and is much wider than the end of the discal cell. Fourth posterior cell and anal cell each closed with a short stalk. Alula large, the ambient vein complete.

Abdomen: The abdomen is comparatively robust and of moderate length, longer in females because of the ovipositor. The male abdomen is subcylindrical and distinctly tapered; in the female the first five segments are apt to be somewhat swollen and more or less oval, strongly tapered on the fifth segment, to which the slender ovipositor is attached. Pile of abdomen dense, coarse and chiefly erect. The pile, narrowly over the medial portion of tergites, tends to be appressed. Bristles are restricted to the sides of the first tergite, where they may occur in a cluster of 5 or may be virtually absent, being replaced by dense pile. Males with eight tergites but the eighth extremely short. Male terminalia characteristic; the hypandrium and its conspicuous clasper and the gonopod are all strongly arched downward as a unit, and the superior forceps with associated structures arched forward and slightly upward, so that a definitive gap or a wide angle tends to lie between them. The superior forceps apically emit paralobi which may be conspicuous and the medial proctiger is long, prominent, and erect. The female terminalia consist of the last five segments; the sixth, seventh and eighth are exceptionally long and of nearly equal length, the sixth and seventh cylindrical; the eighth and remaining segments are strongly compressed laterally. Each segment of the ovipositor is progressively more narrow than the next.

Distribution: Palaearctic: *Astochia caspica* Hermann (1917); *completa* Becker (1926); *metatarsata* Becker (1913); *sareptana* Becker (1923); *sodalis* Wulp (1899); *virgatipes* Coquillett (1898).

Oriental: *Astochia annulipes* Hermann (1917); *canis* Bromley (1935); *determinatus* Walker (1860); *griseus* Wiedemann (1821); *inermis* Hermann (1917); *longistylus* Wiedemann (1828) [=*latro* Doleschall (1857), ?*terebratus* Macquart (1838), *vertebratus* Wulp (1898)]; *philus* Walker (1849); *scalaris* Hermann (1917); *trichura* Hermann (1917); *trigemina* Becker (1925). See addendum (p. 595) for other synonymy.

Genus *Antiphrisson* Loew

FIGURES 357, 781, 1531, 1540, 2302, 2344, 2365, 2371

Antiphrisson Loew, Linnaea Entomologica, vol. 4, p. 124, 1849.
Type of genus: *Antiphrisson trifarius* Loew, 1849.

Rather less than medium size flies, characterized by the moderately produced face with dense mat of downwardly directed, weak bristles. The third antennal segment is rather swollen dorsoventrally and bears a quite short style. Pile abundant but short, appressed and setae. Bristles are prominent on the mesonotum, but more or less reduced elsewhere. Related to *Asilus* Linné. Length 16 mm.

Head, lateral aspect: The face is slightly produced on the upper half and is a little more prominent on the lower half but is without a strong facial gibbosity. The eyes are long, strongly recessed below. The occiput is well developed, and extends to the vertex; its pile is moderately abundant on the upper half, with a fine fringe of hairs lying both lateral and medial to the bristles and with long, matted, curled, abundant pile on the lower half of the occiput. Weak bristles begin below the middle of the head and consist of 12 pairs, with at the top of the vertex 4 pairs of additional, stout, short bristles and a tuft of bristles on each side behind the vertex. The proboscis is short, stout, strongly thickened toward the base with moderately high dorsal ridge; the apex is obtusely truncate and laterally bears an apical fringe of stiff hairs; base below with long, coarse hairs. Palpus of one segment with stiff, bristly, apical pile. The antenna is attached shortly above the middle of the head, and somewhat shorter than usual. The first segment is a little longer than the second; the second is distally expanded. The third segment is as long as the first two segments combined, strongly swollen through the middle and lateral aspect but laterally compressed; it bears a short, distinct microsegment and an unusually short, stout style half as long as the third segment; style with apical spine. The first segment has numerous, short, stout setae, especially below; second segment with a few setae apically above and below.

Head, anterior aspects: The face below the antenna is a fourth of head width and slightly divergent below. The subepistomal area is large, oblique, plane and pubescent. Face pubescent, the pile and bristles restricted to a large, triangular area on the middle and lower three-fifths of face; the middle bears stiff, bristly pile, the lower marginal area has rather longer, numerous, slender bristles. Front moderately divergent, the vertex slightly convergent. Sides of front with numerous, slender, bristly hairs; vertex moderately excavated with gently sloping sides; the occllarium is low, bearing 6 to 8 pairs of stiff hairs. Anterior facets slightly enlarged.

Thorax: The mesonotum and pleuron pollinose; mesonotum more or less uniformly covered with numerous, fine, short, subappressed setae; the sides, including the humerus, bear longer, coarse pile. Acrostical elements not differentiated; dorsolateral elements equally short but near the middle they become slightly longer and posteriorly form about 4 or more long, stout bristles. Lateral margins with long, stout bristles consisting of 2 notopleural, 2 supraalar, and 3 postalar; the scutellum with 3 pairs of marginal bristles. Scutellum thick, convex, pollinose with impressed rim and numerous, long, stiff hairs on the disc. Propleuron with abundant, long pile; pronotum with stiff, bristly hairs. Mesopleuron dorsally and posteriorly with only a few, scattered, stiff hairs but the anterior prolongation, the upper sternopleuron, and the central pteropleuron with a dense patch of long, stiff pile. Posthypopleuron with 2 or more distinct, long bristles. Metapleuron with 5 to 10 long, slender bristles; metanotal slopes with a large, dense patch of stiff pile or weak bristles. Lateral and ventral metasternum with long pile; postmetacoxal area membranous; posterior basalare with a few weak setae; squama with a multiple fringe. Prosternum united to the lateral propleuron by a narrow strip of chitin.

Legs: All the femora are stout; the anterior femur is distinctly thickened towards the base. The hind femur is thick, with long, appressed setae dorsally, laterally, and ventrally, and also with a few long, scattered hairs ventrally and medially; it bears the following short, stout bristles: 1 medial at apex, 1 dorsomedial subapical and 8 dorsolateral, 5 or 6 ventrolateral, 3 ventral at the base and 1 beyond the middle. This tibia bears 1 long dorsal in the middle, and 4 lateral and 4 ventrolateral beginning at the middle; apex with 9 or 10 bristles. Middle femur with 1 long, stout, anterior bristle at the apical third, 1 at basal third and 3 or 4 short ventral bristles and long, stiff pile behind; middle tibia with 2 dorsal and 2 posterodorsal elements beyond the middle, 4 posterior and 2 long ventral bristles. Anterior femur with only a prominent, ventral fringe of long, stiff pile; its tibia has 3 short, dorsal elements on the basal fourth and 5 posterodorsal elements beyond the middle, besides 2 long, straight, oblique, ventral bristles at the middle and apically. Apical circlet with 10 bristles; the medioventral element and the one above it are each nearly as long as the basitarsus and the base of the basitarsus and its apex have equally long, stout bristles. The dorsal apex of the first tarsal segment, the second segment apically and the second and third ventrally, each with 2 long, stout bristles, longer than the segment itself. Tarsi end in well developed pulvilli; long empodium; long, sharp, apically bent claws.

Wings: The marginal cell is closed with a short stalk; the anterior branch of the third vein ends above the wing apex; posterior branch ends an equal distance below the apex. The first posterior cell is slightly narrowed in the middle; second posterior cell slightly swollen basally; lower end vein of the discal cell pulled back; fourth posterior cell closed and stalked. The discal cell is only slightly narrowed in the middle; anal cell closed, second basal cell ends in 2 veins which are fused beyond. Alula large; the ambient vein ends at the anal cell.

Abdomen: The abdomen is cylindroid and tapered, the first tergite is swollen and convex laterally and the abdomen is a little longer than the wings. Pile of abdomen quite flat appressed, fine and setate, somewhat longer and more erect on the sides of the first three tergites; sternal pile is scanty, fine and long on the first three segments, appressed, short setate on the remainder. Bristles are restricted to first tergite, with 5 to 7 present. Eight tergites are present in the male, the eighth however, very narrow and linear; seven tergites in the female exclusive of ovipositor. Male terminalia moderately large and conspicuous and not rotate. Superior forceps slender, elongate and directed straight backward. The gonopod is about half as long as the upper forceps and is arched upward. Proctiger prominent, protruded and erect. Hypandrium short and transverse; genital cavity widely open. These terminalia are very similar to those of *Asilus*, *sensu stricto*.

The female terminalia consist of the moderately long eighth segment of which the tergite is nearly cylindrical and the sternite a little pinched and compressed; they bear rather abundant, quite erect, stiff pile, also suggestive of *Asilus*. The ninth tergite is elongate, convex on top, slightly longer than the tenth segment; and the eighth sternite below extends forward below through its full length. Last segment densely covered with very minute, erect, bristly hairs. Eighth segment a little longer than the seventh.

Distribution: Nearctic: *Antiphrisson astutus* Williston (1893).

Palaearctic: *Antiphrisson adpressus* Loew (1849), *adpressus candidus* Villeneuve (1924); *angustifrons* Loew (1849); *elachypteryx* Loew (1871); *fuligineus* Loew (1871); *sareptanus* Lichtwardt (1903); *thalhammeri* Lichtwardt (1903); *trifarius* Loew (1849).

Genus *Pamponerus* Loew

FIGURES 337, 763, 1619, 1626, 2258, 2343, 2432, 2433

Pamponerus Loew, Linnaea Entomologica, vol. 4, p. 135, 1849. Type of genus: *Asilus germanicus* Linné, 1758, by monotypy.

Medium size flies with pilose metanotal callosity. Bristles are present on only the first abdominal tergite and the face has a conspicuous, dorsally abrupt gibbosity. These are flies with the venation much as in *Asilus* Linné but the upper end vein of the discal cell is quite short, and they are rather readily recognized in males by the milk-white anal lobe and alula. A similar white anal lobe arises in males of some species of *Stenopogon* Loew and in *Stizolestes*, new genus. Length 18 to 25 mm.

Head, lateral aspect: The head is unusually long with a remarkably prominent facial gibbosity; the occiput is prominent likewise, and still more prominent below, for the eye is posteroventrally recessive on the lower third. The proboscis is only moderately large, cylindrical, with pointed apex and slightly swollen base; it bears fine, apical pile and a low dorsal carina. Palpus conspicuous, elongate, cylindrical, with only bristly hairs. The antenna is attached at the upper third of the head and the first segment, which is densely, long, fine, bristly pilose is twice as long as the second segment. The third segment is as long as the first two combined, regularly tapering from the base to a narrow apex; it has a distinct microsegment and a thick style which is nearly or quite as long as the third segment; the style bears a bristle-tip.

Head, anterior aspect: The head is less wide than the thorax, but wider than the mesonotum; it is a little wider than high, subcircular, with prominent cheeks. The face below the antenna is between a fifth and a sixth the head width and is strongly divergent below. The face is thinly pubescent, bare on the short dorsal portion and has a gibbosity densely beset with a mixture of medium stout and fine, long bristles which are carried down the sides of the epistomal margin; the latter is large and oblique. Front small, sunken in the middle, with no transverse groove or line and laterally with a long, oval patch of numerous, long, slender, bristly hairs. The vertex is a little narrowed, scarcely at all excavated and the ocellarium is rather large with 3 or 4 pairs of slender bristles between the ocelli and as many behind.

Thorax: The mesonotum is rather high, abrupt anteriorly and almost as steeply rounded behind. The surface is pollinose, mostly dark and the pile is abundant, fine, suberect and undifferentiated except behind the suture where there are some 6 pairs of dorsocentral bristles, and other long hairs. The lateral complement of bristles consists of 4 notopleural, 4 supraalar, 4 or 5 suprapostalar, 4 or 5 postalar, and 1 or 2 pairs of scutellar bristles. Scutellum thick, pollinose, with long, fine, erect pile and distinct, impressed rim. Propleuron with only dense pile. There is considerable long, fine pile dorsally and posteriorly on the mesopleuron, upper sternopleuron, upper pteropleuron, posterior basalare and posthypopleuron and the latter has several bristles. Metapleuron with a vertical band of slender bristles and pile. Metanotal callosity with numerous long, fine hairs. Postmetacoxal area membranous. Prosternum dissociated.

Legs: The legs are stout; only the first 4 a little more swollen, the hind pair is slightly swollen. Bristles are numerous and stout; the pile is subappressed and setate, the hind femur bears 7 dorsolateral, 8 dorsoventral and medially near the apex is an oblique row of 8 bristles. The hind tibia has only short bristles, 5 dorsolateral, a like number of dorsomedial and 2 or 3 anteroventral on the outer half; apex with 10 bristles. The middle femur has 5 or 6 anterior bristles, 8 to 10 anteroventral, and a ventral basal patch of 8 bristles, besides 3 posteriorly near the apex. Middle tibia with 3 short, stout, posterodorsal bristles on the outer half and 2 smaller basal elements, 5 posteroventral bristles chiefly on the outer half, 2 ventral, and 4 anteroventral bristles. Anterior femur with long, coarse hair dorsally, especially towards the base and with ventrally on the basal half a rather dense, long patch of 20 very stout bristles. This tibia has 10 anterodorsal bristles, mostly minute, 7 or 8 posterodorsal and both these groups longer basally. They also have 4 posterior and 3 long, posteroventral bristles. All tibia stout; the anterior pair slightly curved. Anterior basitarsus as long as the next 2 segments; the hind basitarsus as long as the next 3 segments. Claws stout, comparatively sharp at the apex, the bladelike empodium and pulvilli long. Posterior and middle coxae with only fine pile laterally. All the coxae have a few anteroventral, slender bristles. The posterior trochanters with 7 stout bristles on the medial surface.

Wings: The wings are pale brown. The anterior branch of the third vein meets shortly before the wing apex; the posterior branch shortly behind. The fourth posterior cell is closed with a long, oblique stalk. Anal cell closed; alula large; ambient vein complete.

Abdomen: The abdomen is cylindroid, dark, chiefly shining and pollinose, most of the pollen distributed laterally. The rather copious pile is subappressed and setate and rather long over the middles of the last 5 or 6 segments; the pile is suberect laterally on these segments; on the sides of the first 4 tergites it is much longer, erect and abundant. The first tergite bears 5 or 6 long, slender, lateral bristles; remaining tergites without bristles. Males with eight tergites but the eighth concealed or liplike dorsally and quite short laterally. Females with seven tergites, exclusive of ovipositor. Male terminalia with the superior forceps divergent and with distal, medially apposed process and large, oblique proctiger. Gonopod shorter; hypandrium quite short. Female ovipositor short; the conical, wide and only slightly compressed eighth segment is no longer than the combined length of the terminal segments. Tenth segment comparatively long and free.

Distribution: Palaearctic: *Pamponerus germanicus* Linné (1758) [=*germanus* Jaennicke (1867), *praeda-*

tor Rossi (1790), *tibialis* Fabricius (1794), *undulatus* Fourcroy (1785)], *germanicus helveticus* Mik (1864), *germanicus melaneurus* Loew (1840).

The immature stages of egg, larva and pupa have been treated by Ratzeburg (1844), Frisch (1721), and by Melin (1923), who presumed that he had this genus.

Genus *Epipamponeurus* Becker

Epipamponeurus Becker, Mission Arc. Méridien Amerique Sud, Paris, vol. 10, p. 166, 1919. Type of genus: *Epipamponeurus americanus* Becker, 1919, by monotypy.

I give below Becker's description in translation:

> Similar to *Pamponerus* Loew but last segments of abdomen in the female not divided from the preceding segments by form, color and pile. Length 14 or 15 mm.
>
> These individuals cannot be placed among any known genera, because of the ovipositor of the females, which, among all genera and subgenera, have a special form, so that one is able to distinguish these genera according to this form.
>
> The abdomen of the females of the Asilinae is composed of ten segments, of which the last is formed of two apical lamellae; the abdomen is divided into the abdomen *sensu stricto*, and into the ovipositor, which includes, in addition to the apical lamellae, from two to four segments of the abdomen; the segments of the ovipositor are distinguished from those of the abdomen by the shape (forme), the color and by the absence of pilosity.
>
> The only neighboring genus is *Pamponerus* Loew, but, whereas with *Pamponerus* the segments of the ovipositor are distinguished by their bareness and by their shape, among the females of our genus it is not the same; the ovipositor is provided with bristles and hairs as are the other segments of the abdomen. The males have a superior forceps (epipyge) which is composed, like almost all the other genera, of two forceps; it does not have special characters. The character of this genus is therefore based on the form of the female ovipositor.

Distribution: Neotropical: *Epipamponeurus americanus* Becker (1919).

Amphiscolops, new genus

FIGURES 347, 760, 2404

Type of genus: *Asilus mendax* Walker, 1857.

Large, elongate, cylindroid flies with prominent, bristly face and rather densely long, pilose legs. The third antennal segment is slender and bears a long style. Males with a pair of stout, flattened spines or spinous bristles on the lateral margin of the sixth tergite. Related to *Pamponerus* Loew. Length 25 mm.

Head, lateral aspect: The head is of normal length. The face is plane on the upper fifth, or only slightly visible; the lower and greater part of the face is prominent and strongly protuberant. Eye recessive anteroventrally only on the lower fifth; the anterior eye margin is strongly convex, posterior margin nearly plane through the middle. The occiput is only moderately developed, obliterated at the vertex and not prominent below; occipital pile abundant, long, fine and slightly more abundant ventrally; bristles begin below the middle of the occiput but are slender; there are present about 25 on each side and the upper 3 are somewhat more stout, with their apices slightly curved forward; middle bristles rather strongly curved downward. The proboscis is of medium size, subcylindrical, with low, dorsal, medial ridge; the apex is slightly tapered and bluntly rounded, with fine, apical pile and a number of long hairs ventrally and laterally on the basal half. The palpus is long and bears numerous, long, stiff hairs which become bristly at the apex; apparently there is a very short, basal, semifused, dorsally excavated segment which may constitute a remnant of the basal, palpal segment; it has pile only below. The antenna is attached at the dorsal fourth of the head; the first segment is twice as long as the second, the third segment is slightly longer than the second and not quite as wide; it is slightly tapered towards the apex and bears a long, somewhat basally thickened, apically pointed style. The style is nearly three times as long as the third segment. Pile of first segment abundant, oblique, rather long and stiff and extending from the base to the apex. The dorsal pile is restricted to the apical half, shorter but rather abundant. Second segment with 8 to 10 black setae both dorsally and ventrally. The third segment has 2 or 3 setae dorsally.

Head, anterior aspect: The face below the antenna is about a sixth of the head width and widened below to a fourth of head width. Subepistomal area deeply grooved in the middle, long, conspicuous and everywhere pubescent. The face cover is pubescent, without pile, and bears a wide band of numerous, black bristles, slender laterally but very stout in the lower portion of the medial area and across the middle of the epistomal margin. All the bristles are especially long below: the upper elements are directed forward, the lower ones curved obliquely downward; sides of subepistoma with slender, weak bristles. There is a very slight divergence of the front above the antenna and a slight convergence at the vertex. Sides of front with about 20 long, black bristles. Vertex deeply excavated; ocellar protuberance low and bears 7 or 8 pairs of long, fine, bristly hairs. Central eye facets strongly enlarged. The anterior dorsal portion of the occiput is anteriorly recessive and bears a medial fissure.

Thorax: The thorax including the pleuron, is pollinose. The mesonotal pile is fine, setate and uniformly scattered over the mesonotum; acrostical elements present in 2 or more rows; dorsocentral elements extend out to the lateral margin and beginning at the middle of the mesonotum they form a single, posterior row of bristles of increasing length and stoutness. Humerus pilose. Stout, long, lateral bristles are present and consist of 2 notopleural, 1 weak, posthumeral; 1 postsupraalar; 1 weak suprapostalar; 2 postalar, and 1 pair of scutellar bristles. The scutellum is thick, convex; the surface pollinose with dense, long, fine, stiff pile; margin with deep, impressed rim. All of the propleuron bears abundant, long pile; the pronotum has 4 pairs of stout bristles. The upper border of the mesopleuron, its anterior and posterior borders bear long, stiff pile but no bristles; upper sternopleuron with a large patch of stiff, long pile; pteropleuron with a large, oval patch of long bristles, some of which are quite stout; metapleuron with a wide, vertical band of very stout bristles; posthypopleuron with 2 long, stout bristles and several long, slender hairs and a well differentiated patch of pubescence; metanotal slope bullose, medially creased with a dense tuft of stiff, bristly pile; lateral and ventral metasternum with dense, long pile; postmetacoxal area membranous; tegula with a few, short, medial hairs; posterior basalare with a dense tuft of long, slender bristles; anterior basalare with dense cover of stiff pile; squama with a multiple fringe.

Legs: The femora are relatively slender, middle and hind pairs slightly thickened toward base; all pile and bristles black, except setae brushes. The hind femur bears dense, appressed setae with a few, fine, erect hairs below, a pair of stout, moderately long, black bristles dorsally some distance back from the apex and a single, equally long, stout bristle ventrolaterally near the apical third. The hind tibia bears 3 stout, long, oblique, dorsal bristles, 1 slender dorsomedial at the middle, 1 stout ventral at the apical fifth; apex with 1 dorsolateral, 3 ventral bristles. Hind basitarsus about as long as remaining segments. Middle femur with 4 stout, rather long, anterior bristles, 2 stout, anteroventral bristles located near the middle, 5 ventral on the basal half, and a single posteroapical bristle. The middle tibia bears appressed setae and, with one exception, extremely slender delicate bristles—4 anterior, 2 or 3 posterior, 5 or 6 ventral, and ventrally at the outer sixth it has a very strong, oblique, rather long bristle; apex with 1 posterodorsal and 4 ventral. Anterior femur with 6 moderately stout, ventral elements on the basal half; its tibia has 2 dorsal, 1 basal and 1 medial, and 2 quite long, stout, oblique posterior bristles, 1 at the middle and 1 beyond; apex with 2 dorsal, 1 posterior, and 4 ventral bristles. Both anterior and posterior tibiae and their first two tarsal segments have a dense, appressed brush of yellowish brown setae. All tarsi end in long, truncate, densely pilose pulvilli and stout empodium; claws only moderately sharp, straight dorsally, sharply curved apically.

Wings: The wings are a little wider towards the base, subhyaline, with the basal third of the wings of the males opaque white; the marginal cell closed with a stalk. The anterior branch of the third vein ends before the wing apex; the second submarginal cell is narrowed from behind; first posterior cell narrowed immediately beyond the discal cell. Fourth posterior cell closed with a long stalk, its apex quite convex; second basal cell closed with three veins but the middle vein quite short; anal cell closed with a stalk; alula large, ambient vein complete.

Abdomen: The abdomen is as long as wings and cylindroid, only slightly tapered in both sexes; in the female it is scarcely noticeable until the end of the fifth or sixth tergite. The first tergite is rather strongly ridged, convex and swollen. Eight tergites are present in the male, the last is barely more than half as long as the seventh. Female with seven tergites, the eighth incorporated in the ovipositor. The pile of the abdomen is rather dense, long and fine on the sides of the first to third tergites in the male and on the first tergite in the female. All other pile is dense, fine and appressed setate. The sternites, the first excepted, bear scanty, fine pile. The first tergite has 2 very stout, black bristles, no others in the female, but the third tergite in the male bears a lateral patch of 9 stout, black bristles. The fourth tergite bears 2 pairs; the fifth and sixth each have 2 pairs of unusually stout, divergent, downwardly directed, almost spinelike bristles; sternites lack bristles. Male terminalia large, elongate, not rotate. The hypandrium has a V-shaped cleft to its base and replaced medially by membrane. Female terminalia short, more or less conical, approximately of equal width laterally and dorsally, no spines present; the ninth tergite is extremely short and the tenth is twice as long as the ninth.

Distribution: Australian: *Amphiscolops areolatus* Walker (1861); *areolaris* Walker (1860); *mendax* Walker (1857); *nigritulus* Wulp (1872).

Genus *Stilpnogaster* Loew

FIGURES 356, 762, 1530, 1539, 2268, 2332, 2376, 2383

Stilpnogaster Loew, Linnaea Entomologica, vol. 4, p. 82, 1849.
Type of genus: *Asilus aemulus* Meigen, 1820, by monotypy.

Flies of less than medium size. Related to *Rhadiurgus* Loew and like it with a large, rounded, domelike facial gibbosity and short antennal style but distinguished by the presence of distinct, moderately stout tergal bristles, and long, stout, hypopleural bristles. In the females the ovipositor is short but strongly compressed laterally. Length 16 mm.

Head, lateral aspect: The face is slightly produced on the upper third beneath the antenna; below this point it rapidly rises to a low, but conspicuous, rounded gibbosity. Eyes unusually long, recessed anteriorly on the lower posterior third. The occiput is moderately thick and continuing undiminished to the vertex; the pile is scanty above but the lower occipital pile is abundant, long and curled; bristles begin below the middle of the head in profile and consist of about 18 on each side with a cluster of exceptionally stout, short bristles placed laterally behind the vertex and the upper eye corner which contains about 14 bristles. Proboscis rather small, cylindrical and obtuse; the apex bears stiff pile at the tip and below and a number of long, stiff hairs on the ventral half; the dorsal ridge is high; from a dorsal view the proboscis is expanded towards the base and the whole directed obliquely downward. Palpus of one segment with a few stiff hairs at the apex. The antenna is attached at the upper third of the head and of moderate length and slender; the first segment is twice as long as the second, the second segment short and beadlike. The third segment is widest at the base and gently tapered at the apex, laterally compressed and bears a moderately long microsegment. The third segment is 1½ times the combined length of the first 2 segments; it has a short microsegment present and the short style bearing an apical bristle is only a third the length of the third segment. Pile of first segment composed of dense, oblique, moderately long setae above, below and laterally. Second segment with fewer, shorter setae above and below.

Head, anterior aspect: The head is only a little wider than high. The face below the antenna is two-elevenths the head width and double this width below. Subepistomal area of moderate size, deeply concave and pubescent. The face is pubescent and bears numerous, long, stout bristles on the middle portion of the gibbosity and the lateral margins of the epistoma. The upper elements are directed forward and curved, the others curved downward. The front is slightly divergent, the vertex slightly convergent; sides of front convex and bearing 6 or 7 weak bristles; vertex shallowly excavated with slanting sides; ocellarium large, with vertical sides and bearing 3 or 4 pairs of fine bristles. Eye facets a little enlarged centrally.

Thorax: The mesonotum is pollinose on a lateral stripe and on the whole of the pleuron except a diagonal, bare stripe on the mesopleuron. Pile of mesonotum exceptionally scanty, composed of fine, appressed, sharp setae; there is an acrostical row doubled anteriorly but nearly absent through the middle of the mesonotum. At the notopleural level the dorsocentral elements become long and consist of 7 in each row. Humerus with a few setae and a few long hairs. Lateral bristles of the mesonotum exceptionally long and stout: 5 notopleural, 4 supraalar, 1 suprapostalar, 5 postalar, and 3 pairs of scutellar bristles. Scutellum thick, convex, with impressed rim, pollinose and with fine, erect setae on the disc. Propleuron with long, fine pile and 5 pairs of stout bristles on the pronotum. Upper mesopleuron, posterior and anterior sections, the upper pteropleuron, and sternopleuron each with a patch of long, stiff pile. Posthypopleuron with 4 especially long, moderately stout bristles; metapleuron with a vertical row of 12 equally long bristles, 4 of them stout. Metanotal slopes with 3 or 4 bristles and some stiff pile. Metasternal slopes and the metasternum with long pile; postmetacoxal area membranous; tegula pubescent only but the posterior basalare bears a few setae; squama with a multiple fringe. Prosternum dissociated.

Legs: All the femora are stout; anterior and middle pairs distinctly thickened. The posterior femur and tibia moderately elongate; the tibia is stout, it and the femur are slightly narrowed towards the base; the femur is appressed setate on all sides with stout bristles which consist of 1 at apex dorsomedially and 1 dorsolaterally, 2 others at the subapex dorsomedially, 1 below it medially, and another ventromedially. In the dorsolateral row are 7 bristles, in the ventrolateral row 5 and in the ventral row 7 or 8 bristles; this tibia has curved, oblique bristles, 4 dorsal, 4 lateral and 4 ventral; apex with 10 bristles. Basitarsus nearly as long as the next three segments. The middle femur has a stout posteroapical, 2 anterior, and 3 anteroventral bristles. The middle tibia has 4 dorsal, 3 anterior, 3 anteroventral, 3 posterior, 3 posteroventral, and 3 ventral bristles. Anterior femur with a ventral fringe of about 10 long, slender bristles; anterior tibia with 6 or 7 dorsal bristles, part of them quite short, and 4 exceptionally long posterior bristles. Tarsi end in large, ribbed pulvilli; empodium two-thirds as long as claws, and end in sharply pointed claws bent chiefly at the apex.

Wings: The wings are hyaline; the marginal cell is closed with a short stalk; the anterior branch of the third vein ends at or barely above the wing apex; first posterior cell slightly narrowed at the middle from above and below; fourth posterior cell closed with a long stalk, rather convex anteriorly; anal cell closed; second basal cell ends with two veins; the second submarginal cell takes origin shortly beyond the end of the discal cell; alula large, ambient vein complete.

Abdomen: The abdomen is relatively stout and as wide as the mesonotum; the first two tergites are more or less flattened across the middles, but otherwise the abdomen is subcylindrical to the end of the fifth segment; in the females the abdomen becomes laterally compressed at this segment. The first tergite is strongly swollen laterally and convex and anteriorly ridged. Pile of the abdomen fine, flat appressed and setate; the sternal pile is mostly long and scanty on the basal sternites, short and appressed posteriorly. Sides of the first and second tergites with considerable long, fine pile. Stout bristles present on the tergites. The first tergite has 2 or 3 exceptionally long bristles; the posterior submargins of the remaining tergites bear 2 or more, stout bristles laterally; second and third tergites with 2, third and fourth tergites with 3 or 4 each, sixth tergite with 4 or 5 bristles. On these tergites the bristles grow weaker toward the middles of the tergites and toward the lateral margins. All sternites laterally have distinct bristles though rather long and weak. Males with eight tergites, the eighth more than half as long as the seventh but both reduced; seven tergites present in the female, the eighth forms part of the ovipositor. Male terminalia prominent but quite short and robust. The superior forceps are convex and obtuse with an apical notch instead of a dorsal notch and curved to the midline; proctiger protruded and erect; including the eighth segment, the whole dorsal part tilts upward; gonopod short and obtuse. Hypandrium large, relatively long and transverse; aedeagus of three united prongs; cavity open below. Female terminalia relatively short; the eighth tergite is strongly compressed but the corresponding sternite is cylindrical instead; this segment is a little longer than the seventh. Ninth and tenth segments very much smaller, of about equal length and moderately compressed. No spines present.

Distribution: Nearctic: *Stilpnogaster auriannulatus* Hine (1906).

Palaearctic: *Stilpnogaster aemulus* Meigen (1820) [=*fasciata* Megerle in literature in Meigen, *incerta* Wiedemann in literature in Meigen, *nigricans* Macquart (1834), *stabilis* Zeller (1840)].

Genus *Epiklisis* Becker

FIGURES 784, 1491, 1500

Epiklisis Becker, Ent. Mitt., vol. 14, p. 133, 1925. Type of genus: *Epiklisis pilitarsis* Becker, 1925, by monotypy.

Small, slender, strongly tapered flies. The face is moderately produced, slightly convex and it begins to rise immediately beneath the antenna, or very close to the antenna. Acrostical elements are distinct but short, dorsocentral elements are scarcely differentiated even posteriorly. The first tergite bears a single bristle, the remainder without bristles. The femora and tibiae are slender with reduced bristles. The ovipositor is short and quite strongly compressed. Length 10 to 14 mm.

Head, lateral aspect: The eye posteriorly is nearly plane, except on the lower third, where, together with the occiput, it is strongly and convexly anteroventrally recessive. The face is moderately produced beginning at or near the antenna and distinctly but gently convex. The occiput is prominent and uniformly developed throughout; it bears 4 bristles on each side near the vertex and fine pile in the middle and below. Proboscis of moderate size but comparatively short, extended obliquely downward, very little longer than the face; it is bluntly rounded at the apex, with rather numerous, stiff, bristly hairs above and below; dorsal ridge absent; it is tapered gently towards the base equally in dorsal and lateral aspect and bears laterally near the base 2 or 3 long, bristly hairs directed outwardly and a few additional hairs ventrolaterally. Palpus slender, long, cylindrical, with a fused trace of the basal segment; the apex has several, long, bristly hairs, the lateral surface and ventral surface with shorter, fine pile. The antenna is attached at the upper third of the head. First segment is slightly longer than the second, both with rather numerous, comparatively stout, long, black bristles and bristly hairs ventrally.

Head, anterior aspect: The face below the antenna is about a fourth the head width and slightly wider at the epistoma. The face bears only bristles, which begin near the antenna with a short, bare space immediately below. Bristles are numerous and weak dorsally, blackish above and laterally and below with a medial row of 3 pairs of long, stout, pale bristles; submedially, above the epistomal margin, are 2 pairs of similar, stout, pale bristles. Lateral subepistomal margin without bristles. The subepistoma is large, oblique, barely concave, densely pubescent. Front quite short due to the deep excavation of the vertex. The front is nearly vertical, pubescent, with 4 distinct, rather long, slender, black bristles laterally and 3 other bristly hairs dorsally. Ocellarium moderately large, low, rounded, with 3 pairs of fine, slender bristles between the ocelli and 2 pairs behind the ocelli.

Thorax: The mesonotum bears rather stiff, erect, sharp setae. There are acrostical elements present in a double row of short, stiff bristles. Dorsocentral bristles are poorly differentiated but there are 3 or 4 pairs of rather short, slender, posterior bristles; anteriorly they are not differentiated from the short bristly pile. The notopleuron has 2 moderately long, exceedingly stout, black bristles. Supraalar and postalar each with a single exceptionally long and unusually stout, black bristle. Mesopleuron with about 6 fine, long hairs posteriorly; upper sternopleuron similar. Anterior pronotum with only fine, erect pile; hypopleuron with 6 rather long, fine, white hairs; metapleuron with a radiating, vertical, single row of moderately long, slender bristles and yellowish white hairs; the lower 5 are bristles. Scutellum only moderately thick but convex, with a distinctly impressed rim, and densely pubescent, with fine, scattered hairs on the disc; the basal crease is complete and deep; the margin has 1 pair of fine, rather short, bristly hairs, quite slender. Lateral metanotum with an abundant patch of fine, long, stiff pile. Posterior half of the lateral metasternum and the ventral metasternum with numerous, fine, long hairs; the latter is wide and chitinized. Postmetacoxal area large, membranous, pubescent; the posterior basalare bears a few, fine, delicate hairs ventrally, scarcely noticeable.

Legs: The hind femur is slender and of nearly uniform thickness throughout; it is densely, fine, appressed setate dorsally and laterally with almost no pile ventrally and bears only a few, fine hairs ventromedially. The medial surface is rather narrowly covered with a dense fringe of pale, bristly pile, moderately long and directed downward. Bristles of the legs are comparatively few and for the most part weak. The hind femur bears a single, stout, subapical, dorsolateral bristle and 2 lateral bristles at the basal and apical fourth. The hind tibia has a short, stout, dorsolateral bristle quite at the base; a slender, dorsomedial bristle at the middle of the tibia, a stout, dorsolateral at the outer fourth and below a corresponding ventrolateral bristle. The middle femur has a stout, distal, anterior bristle corresponding to the one on the hind femur and with a stout, posteroapical bristle. Ventral surface basally and posteriorly with 4 or 5 stout, long, slender, yellow bristles. The middle tibia has long, rather stout, yellow bristles. There is a single dorsal bristle in the middle, a posterior bristle at the basal third, 2 anteroventral bristles on the outer half and an anterior bristle at the outer third, and 2 posteroventral bristles at the middle and outer fourth. The anterior femur has only 3 long, stout, pale, posteroventral bristles on the basal half. Anterior tibia with 2 short, black posterodorsal bristles, black at the basal and outer third; and with 2 quite long, basally stout, attenuate, pale, posteroventral bristles. Claw slender, sharp, curved from the base; pulvilli long but slender; empodium from a half to two-thirds as long as the claw.

Wings: The marginal cell unusually wide but the wing is not expanded anteriorly; this cell is closed with a short stalk. The two branches of the third vein end about an equal distance above and below the apex of the wing. Anterior crossvein distinctly oblique, entering the discal cell a little beyond the middle. The lower end vein of the discal cell is two or three times as long as the upper vein and drawn towards the base of the wing. Fourth posterior cell closed with a moderately long stalk. The second basal cell ends in two veins. Anal cell closed. Alula wide, the ambient vein complete.

Abdomen: The abdomen is slightly tapered or with nearly parallel sides; it is a little more than two-thirds as wide as the mesonotum. The first tergite is rather strongly protuberant laterally and bears a single, very long, stout, black bristle and numerous, long, erect, stiff yellowish hairs. There are seven tergites present in the female, the eighth is included in the ovipositor and is as long as the seventh. The ninth segment is half as long as the eighth and the tenth of the same length. The ovipositor is short and strongly compressed laterally. First sternite apilose; the base of the second has 3 or 4 fine, long hairs on each side, remainder of sternal pile short and quite fine.

Distribution: Oriental: *Epiklisis pilitarsis* Becker (1925).

Genus *Neoitamus* Osten Sacken

Figures 330, 344, 636, 1508, 1517, 2274, 2305, 2441, 2466

Itamus Loew, Linnaea Entomologica, vol. 4, p. 84, 1849. Type of genus: *Asilus cyanurus* Loew, 1849. Designated by Coquillett, 1910, the first of four species. Preoccupied, Coleoptera, 1846.

Neoitamus Osten Sacken, Catalogue of the described Diptera of North America, ed. 2, Smithsonian Misc. Coll., vol. 16, pp. 82, 235, 1878. Change of name.

Trichoitamus White, Papers Proc. Roy. Soc. Tasmania, 1916, p. 91, 1917. Type of genus: *Asilus rudis* Walker, 1855, by original designation.

Small or medium size flies, the upper face plane with the eye, the lower half with an abruptly developed, conspicuous gibbosity. The upper occipital bristles are almost always proclinate and dorsocentral bristles generally well developed anteriorly. Metanotal callosity pilose or bristly. The tergites have distinct bristles posterolaterally, the venation is similar to *Asilus* Linné but with the second posterior cell only gently and moderately widened basally. In the females the ovipositor is formed by the last five segments, which are narrowed and laterally compressed. Length 15 to 22 mm.

Head, lateral aspect: The head is of medium length. The eye is strongly convex anteriorly, plane posteriorly except on the lower fifth, where the eye is posteroventrally recessive. The upper half of the face is plane with the eye; the lower half has a prominent gibbosity which tends to have flat, lateral margins and is generally abruptly developed dorsally. The occiput is only moderately prominent, a little better developed near the vertex and bears rather loose pile ventrally with bristles beginning at or just below the middle. These occipital bristles are slender and with few exceptions strongly proclinate at the vertex. The proboscis is comparatively slender with a low, dorsal keel; the base at most is very slightly swollen and the apex bluntly rounded, with a few fine hairs. Palpus cylindrical, of moderate length, pilose with weak apical bristles. The antenna is attached a little above the upper third of the head; the second segment short and about half as long as the first segment. Both of these segments bear numerous, slender, bristly hairs ventrally. Third segment slender, generally not as wide as the second segment, widest subbasally and attenuate. It is approximately as long or slightly shorter than the combined length of the first two segments and bears a distinct microsegment and a style of nearly the same length as the third segment.

Head, anterior aspect: The head is nearly or quite as wide as the thorax, nearly circular, especially if the total height is considered, although the cheeks are of moderate extent. The face below the antenna is quite narrow and in the type of the genus is only about a tenth the head width. Below the antenna the face may be slightly narrowed and then is strongly divergent. The upper half is pubescent, generally without pile, although there may be a subocular row of longer pubescence. The bristles of the gibbosity tend to be restricted to the middle, extend over its whole length, are numerous and long, but slender and extend down the sides of the oblique subepistoma. The front is wider than the upper face and the vertex slightly narrowed. Front pollinose, with a single sublateral band of bristly pile in 2 irregular rows. Vertex but little excavated, with slanting sides and large ocellarium, carrying 2 or 3 pairs of bristles between the ocelli and a like number behind.

Thorax: The mesonotum is high and rather strongly arched both anteriorly and posteriorly. It is pollinose laterally and generally pollinose on submedial stripes. The pile is scant, distinctly bristly in character, rather long and suberect, with an extensive, submedial, bare area beginning posteriorly to the humerus. Acrostical, bristly pile is well differentiated. The dorsocentral elements become long, slender but prominent at a point corresponding to the posterior plane of the humerus. Humerus pilose, the lateral complement of stout bristles contains: 3 notopleural, 1 or 2 supraalar, 1 suprapostalar, 3 or 4 postalar, and 1 to 3 pairs of scutellar bristles. The scutellum is rather thick and convex with distinct, impressed rim and scattered, erect, stiff hairs. Pronotum with a few, weak bristles. The upper border of the mesopleuron has a fringe of long, stiff pile and generally few or no hairs posteriorly. Upper pteropleuron with several bristles, the posterior basalare has several bristly hairs. The upper posterior corner of the sternopleuron has numerous, fine hairs. Posterior hypopleuron and metapleuron each with a vertical band of hairs and a few stout bristles. Metanotal callosity with pile. Metasternum pilose. Postmetacoxal area membranous; the prosternum is fully dissociated.

Legs: The first four femora are stout and a little swollen especially toward the middle and the base. All the femora and tibiae are comparatively long, especially the hind pair, which are rather slender. Pile of the legs fine, subappressed, setate and abundant. Bristles are numerous but are unusually slender, with quite fine apices. The hind femur bears 4 lateral bristles, 5 ventrolateral, 7 or 8 ventromedial bristles and at the subapex a prominent bristle on each side; at the apex only 1 or sometimes 2 small, slender bristles on the dorsomedial aspect. Hind tibia bears 3 or 4 dorsolateral including a stout element at the base, 5 to 7 dorsomedial bristles and 2 or 3 ventrolateral elements; at the apex are 8 bristles. Middle femur with a stout, apical, posterior bristle, 3 conspicuous bristles anteriorly and 3 anteroventrally, besides 5 or 6 slender, posteroventral bristles concentrated on the basal half. The middle tibia bears 2 anterodorsal bristles near the middle, 3 posterodorsal, 2 conspicuous anteroventral bristles, 1 posterior, and 1 posteroventral bristle. Anterior femur with 1 or 2 well developed bristles at the apex anteriorly and a row of moderately stout bristles ventrally chiefly on the basal part. On anterior tibia there is generally a prominent bristle dorsally at the base, several quite weak bristles dorsally on either side, and 3 to 6 long, slender bristles posteriorly in 2 rows. Anterior basitarsus as long as the next 2 segments. Posterior basitarsus at least as long as the next three. The claws are comparatively slender, sharp, and the pulvilli and empodium well developed.

Wings: The venation is rather similar to *Asilus* but with the base of the second posterior cell only gently and moderately widened. The base of the second submarginal cell is formed as in *Asilus* and the anterior branch of the third vein ends a little before the wing apex and posterior branch a little farther behind. In the type of the genus the third vein forks well beyond the discal cell, and the posterior crossvein is much longer than the end of the discal cell.

Abdomen: The abdomen is comparatively slender and cylindroid; the first segment is conspicuously wider than the remaining segments. Sides of first tergite with 4 or 5 pairs of bristles. The lateral third of the posterior margin on all the remaining tergites bears conspicuous bristles. Pile of abdomen scanty, fine, subappressed and setate but becomes longer on the sides of the first three segments. Sternites with long, fine, scattered, bristly hairs, but no stout bristles. Most of the abdomen is pollinose. The last three segments are sometimes shining. Males with eight tergites, the eighth is either short or moderately long, almost as long dorsally as laterally. Females with five tergites exclusive of the ovipositor. Male terminalia rather large and clublike, the superior forceps not long but high and broad at the base, tending toward the apex to curve slightly toward the midline, so that dorsally there is an enclosed space a little like that of *Philonicus* Loew; it is tilted upward. Superior forceps with a deep, lateral constriction. Gonopod broad basally with a stout, apical process emitted at a right angle and the whole structure so bent that there is a gap lying between it and the superior forceps, somewhat as in *Astochia* Becker. Hypandrium rather long and prominent and apparently fused laterally to the constricted base of the superior forceps, and with numerous, long, ventral, stiff hairs. Proctiger long, protruded, and nearly erect. The ovipositor consists of five segments of progressively diminishing size, all of them rather strongly compressed laterally and with the tenth segment free; no spines present; there are scanty, long, fine, bristly hairs on all segments.

Distribution: Nearctic: *Neoitamus affinis* Williston (1893); *brevicomus* Hine (1909); *coquilletti* Hine (1909); *flavofemoratus* Hine (1909) [=*flavipes* Williston (1893) not Wiedemann]; *hardyi* Bromley (1938); *orphne* Walker (1849) [=*anceps* Wulp (1869), *distinctus* Williston (1893)]; *terminalis* Hine (1909).

Neotropical: *Neoitamus capillatus* Williston (1901); *nigrocaudatus* Williston (1901).

Palaearctic: *Neoitamus angusticornis* Loew (1858); *cothurnatus* Meigen (1820) [=*aestivus* Zetterstedt (1842)]; *cyaneocinctus* Pandellé (1905); *cyanurus* Loew (1849) [=*aestivus* Meigen (1820) in part, *?aestivus* Schrank (1781), *?niger* DeGéer (1776), *?tabidus* Meigen (1820), *tibialis* Fallen (1814) not Fabricius]; *dasymallus* Gerstaecker (1861); *impudicus* Gerstaecker (1861); *rubrofemoratus* Ricardo (1919); *socius* Loew (1871) [=*aestivus* Meigen (1820) in part]; *splendidus* Oldenberg (1912); *univittatus* Loew (1871).

Ethiopian: *Neoitamus africanus* Ricardo (1919); *armatus* Becker (1909); *morio* Bezzi (1914); *neavensis* Ricardo (1919); *podagricus* Bezzi (1914).

Oriental: *Neoitamus aurifer* Hermann (1917); *ceylonicus* Ricardo (1919); *dipygus* Schiner (1868); *dolichurus* Becker (1925); *fertilis* Becker (1925); *grandis* Ricardo (1919); *griseus* Wiedemann (1821); *hindostani* Ricardo (1919); *inornatus* Ricardo (1919); *javanensis* de Meijere (1914); *khasiensis* Bromley (1935); *nigricans* Ricardo (1919); *normalis* Walker (1862); *pediformis* Becker (1925); *pulcher* Ricardo (1919); *rubripes* Hermann (1917); *siamensis* Ricardo (1919); *strigipes* Becker (1925); *tarsalis* Ricardo (1919); *tropicus* Ricardo (1919).

Australian: *Neoitamus alcetas* Walker (1849); *bulbus* Walker (1849); *divaricatus* White (1917); *hyalipennis* Ricardo (1913); *involutus* Walker (1861) [=*dentipes* Wulp (1872)]; *leucopogon* de Meijere (1913); *maculatoides* Hardy (1920); *maculatus* White (1914); *melanopygus* Wulp (1898); *mistipes* Macquart (1849); *planiceps* Schiner (1868); *rudis* Walker (1855); *spinicauda* Wulp (1898); *varius* Walker (1849).

Verrall (1909) in his appendix list of Palaearctic species, considered that Moses Harris' species *Asilus tipuloides*, 1782, falls in synonymy under *Neoitamus cyanurus*. See addendum (p. 595) for other synonymy.

In the genus *Neoitamus*, Beling (1882) and Melin (1923) treat the immature stages of *Neoitamus cyanurus* and *socius*. According to Irwin-Smith (1923) several authors have treated the immature stages of *Asilus aestivus*, which probably represents *Neoitamus cothurnatus*.

Genus *Erax* Scopoli

FIGURES 302, 793, 1495, 1504, 2222, 2234, 2284, 2374

Erax Scopoli, Entomologica carniolica . . ., p. 359, 1763. Type of genus: *Erax barbatus* Scopoli, 1763. Designated by Coquillett, 1910, the fifth of 14 species.

Protophanes Loew, Abh. Naturw. Ver. Halle, Berlin, vol. 2, p. 143, 1860. Type of genus: *Asilus punctatus* Meigen, 1804. Designated by Engel, 1926, the first of 3 species.

Medium size, rather long pilose, bristly flies with a robust appearance in the males due to the large, broad, clublike terminalia but with the females rather strongly attenuate. The abdomens in both sexes sometimes a little compressed laterally but more or less subcylindrical. The face is prominent, distinctly abrupt beneath the antenna and bears long, numerous, slender bristles. The rather long, third antennal segment is exceptionally slender. Length 15 to 20 mm.

Head, lateral aspect: The face is unusually prominent, narrowed laterally and convex anteriorly; it is very abrupt dorsally and for a short distance beneath the antenna reduced to eye level. Eye narrowed somewhat below the middle, long, flattened anteriorly and rather strongly recessive anteroventrally on the lower third of the posterior portion. The occiput is rather thick medially throughout, more prominent above the middle; pile of the occiput dense, rather long and fine and matted ventrally, shorter in the middle but again extremely long vertically. On the upper fourth are about 5 pairs of weak, slender bristles. The proboscis is short, and rather slender, slightly tapered to a rounded point, bearing numerous bristly hairs on all sides of the apex and with a ventrolateral fringe of numerous, long, fine hairs on the basal half; a dorsal ridge is absent; it is directed chiefly forward. Palpus rather long, moderately stout, cylindrical, with fine bristly hairs at the apex. The antenna is attached a little below the upper third of the head, of usual length, but unusually slender; the first segment is 1½ times as long as the second, which is considerably widened distally. The third segment is distinctly more narrow than the second, nearly 1½ times as long as the first two combined, and continues to be quite slender throughout; it is a little narrowed distally and bears a very short, microsegment, followed by an attenuate style half as long as the third segment, with apical bristle. First antennal segment with numerous, rather fine, pale, bristly hairs on all sides except medially; apex of second segment with similar but shorter pile.

Head, anterior aspect: The face below the antenna is a third the head width, considerably wider at the epistoma. Subepistomal area moderately large, oblique, concave, pubescent. The face is quite prominent, the sides flattened, the whole strongly convex and gibbous, and rising abruptly a short distance beneath the antenna; the face immediately below the antenna is plane with the eye, the antenna attached to a low prominence. The face is apilose, with numerous, quite long, curved, slender bristles of nearly uniform thickness throughout. These begin at the base of the gibbosity dorsally and extend down over the upper half of the lateral subepistomal margins; they are nearly as long as the antenna and below extend well beyond the proboscis. Front with a dense, lateral tuft of numerous, quite long, slender, bristly hairs or weak bristles; vertex moderately excavated, the sides steep, the ocellarium large with prominent ocelli and bearing across the middle 4 or 5 pairs of slender, bristly hairs with as many others behind the ocelli. Anterior eye facets a little enlarged.

Thorax: The thorax is pollinose; the mesonotum is abrupt and vertical anteriorly and more than usually convex posteriorly. Pile of mesonotum abundant, unusually long, fine and bristly, with a narrowly differentiated band of acrostical pile and with long, slender, dorsocentral elements on the anterior half which become extremely long and somewhat stouter posteriorly and consist of 8 to 10 pairs behind the suture. Humerus with only fine, erect, short pile. Lateral bristles very stout and consist of 3 notopleural, besides 2 slender, posthumeral, 3 supraalar, 2 postalar with 5 more additional, slender elements and 5 pairs of exceptionally long scutellar bristles. Scutellum thick and convex, with distinct impressed rim, pubescent and with abundant, long, fine pile. Propleuron densely long, fine pilose; the pronotum without bristles, the posterolateral pronotum also with only fine pile. The anterior sternopleuron, the postdorsal sternopleuron, the pteropleuron, each with a tuft of fine, long hairs. Mesopleuron dorsally with a double row of 5 slender, bristly hairs; posthypopleuron with 1 stout, 3 or 4 slender bristles and several, bristly hairs. Metapleuron with a double, vertical row containing 6 or 7 exceptionally straight, stout bristles and with additional bristly hairs. Lateral slopes of the metanotum with a dense patch of bristly pile; ventral metasternum with abundant, long pile. Postmetacoxal area membranous; tegula with minute setae, posterior basalare with 4 or 5 slender hairs ventrally; anterior basalare pubescent only; squama with a multiple fringe.

Legs: The femora are only moderately stout, the hind femur least stout, the anterior femur slightly thickened towards the base. The hind tibia is slightly shorter than its femur. Hind femur and to a lesser extent the others with rather scanty, fine, appressed pile, a little longer and less appressed laterally; the ventral surface bears a few, fine, suberect hairs and an abundant, ventral, medial fringe of long, fine pile. Hind tibia ventrally only with short, fine subappressed pile and a medial brush of setae beginning at the base.

In the type of genus the hind femur bears bristles, mostly long and stout, which consist of 4 dorsolateral, the latter matched by a similar, subapical dorsomedial bristle and with 1 apical dorsomedial bristle; there may be 2 or 3 lateral bristles present beyond the middle and also 8 ventrolateral bristles. The hind tibia bears 2 dorsomedial bristles near the middle, 3 dorsolateral bristles, and 3 ventrolateral bristles beginning at the middle and beyond. Middle femur with on the outer half 3 anterodorsal and 3 posterodorsal bristles, and 5 prominent anteroventral bristles, besides an abundant, ventral fringe of fine, long pile on both sides. Middle tibia with the bristles quite fine; there are 2 anterior on the outer half, 3 dorsal, distributed along the middle, 1 posteroventral and 1 anteroventral on the outer fourth, besides long, fine pile anteriorly, posteriorly, and ventrally.

Anterior femur without bristles, but with a conspicuous, dense, ventral fringe of long, fine pile and posterodorsally a fringe of delicate, bristly hairs; this tibia has a single, anterodorsal bristle at the base, 3 posterodorsal bristles from near the middle and beyond, and moderately long, fine pile ventrally. All the basitarsi relatively short; first four as long as the next two segments or slightly longer. Hind basitarsus as long as the next three. Intermediate tarsal segments quite short; tarsi end in slender, sharp claws, strongly bent apically long pulvilli, basally stout empodium; the first pair is three-fourths as long as the claw, the last pair only half as long.

Wings: The marginal cell closed with a short stalk, subcostal cell quite narrow, the marginal cell wider. The anterior branch of the third vein is strongly sinuous; second submarginal cell broad at the base, strongly but gently arched anterobasally, the cell is narrowed in the middle but scarcely wider apically than across the base, and arises a considerable distance beyond the end of the discal cell; anterior branch of third vein ends before the wing apex, posterior branch only a little farther behind. Posterior cells open widely, except the fourth, which is closed with a moderately long stalk. Apical side of fourth posterior cell straight but anteriorly rather convex; anal cell closed with a long stalk, concave posteriorly; the second basal cell ends in two veins, anterior crossvein enters the discal cell beyond the middle; alula large, ambient vein complete.

Abdomen: In the males the abdomen is distinctly shorter than the wing; the first tergite is only as wide as the mesonotum, its sides protuberant but not anteriorly demarcated. Male abdomen unusually robust, cylindroid or slightly compressed laterally. Pile of abdomen scanty, short dorsally becoming longer immediately towards the sides, fine and more or less erect, except along the middle posteriorly, where it tends to be appressed. Sides of first tergite with 4 pairs of slender bristles. In males the second and third tergites posterolaterally bear at least 3 or 4 quite long, slender, distinct bristles; females similar, the bristly hairs continued on to the seventh tergite. Apical margin of the first tergite in the male with a long posterior fringe of bristly hairs; sternites with long, bristly pile; first sternite with scanty pile. Males with eight tergites, the eighth longer laterally where it is from a fourth to half as long as the seventh tergite and shorter dorsally. All the last four tergites are progressively shortened, the third, fourth, and fifth approximately equal in length. Females with seven tergites, those beyond incorporated in the ovipositor. Male terminalia exceptionally large, the superior forceps club-shaped, with a posteromedial blunt process; gonopod shorter. Postmargin of the last sternite with a fringe of long, red bristles; hypandrium apparently wanting; the whole terminalia not rotate. Female terminalia quite flat appressed, paper-thin, and attenuate from the lateral aspect, the eighth tergite is longer than the preceding three tergites. Ninth and tenth tergites short.

I am indebted to Mr. H. Oldroyd for calling to my attention the confusion which has long existed with respect to the European robber flies, which have been currently placed under the name *Protophanes* Loew, and the great assembly of entirely New World species placed in the past under the name *Erax* Scopoli. In 1910, Coquillett designated *Erax barbatus* as the type of genus of *Erax*. This was the fifth species. These Palaearctic flies only superficially resemble the widespread New World genus, which must now be assigned another name. This New World group of flies now becomes assigned to *Nerax*, new genus. The species *Protophanes punctatus*, an Old World species and the type of genus of *Protophanes* Loew, has generally been considered a synonym of *Erax barbatus;* the latter does have priority. In any case the name *Erax* Scopoli cannot be used for the New World group and it seems entirely proper to begin using Scopoli's name for the Palaearctic species, which have previously gone under the name *Protophanes;* I have, therefore, placed *Protophanes* in synonymy. I call attention to the scattered distribution of some species placed by Kertész in this group (*Protophanes* Loew); I consider it highly doubtful that all of these species are congeneric with the European *Erax barbatus* Scopoli (*Protophanes punctatus* Meigen of authors).

Distribution: Palaearctic: *Erax atticus* Loew (1871); *barbatus* Scopoli (1763); *crassicauda* Loew (1862); *curiatius* Walker (1849); *fuscidus* Pallas in Wiedemann (1818); *nubecula* Loew (1848); *punctatus* Meigen (1804) [=*?frontalis* Olivier (1789); *punctipennis* Meigen (1820)]; *sinensis* Macquart (1838); *tenuicornis* Loew (1848); *varians* Meigen (1830) [=*varius* Loew (1848)].

Ethiopian: *Erax albiceps* Macquart (1849); *costalis* Wulp (1899); *nigrotinctus* Becker (1909).

Oriental: *Erax integer* Macquart (1846); *ochriventris* Becker (1923).

Australian: *Erax albiventris* Macquart (1849); *plantaris* Thomson (1869); *salomon* Macquart (1838).

Stizolestes, new genus

FIGURES 310, 773, 1528, 1537, 2177, 2211, 2351, 2407, 2410

Type of genus: *Asilus nigriventris* Philippi, 1865.

Rather less than medium size flies with abundant, long, fine pile and the bristles long but slender. The face is narrow and protuberant below. Base of wings whitish in males only. Length 16 mm.

Head, lateral aspect: The head length is normal; the face is barely visible on the upper third but at this point rather abruptly protrusive; the remaining lower portion is prominent, protuberant, and convex. Eyes strongly convex anteriorly with a nearly straight profile behind over the middle portion. Occiput thick and continuing so nearly to the vertex; it bears extremely long, stiff, black pile, extending in a wide band from or near the eye margin over the upper three-fourths of the occiput, without true bristles. All this pile is black but the ventral fifth of the occiput has long, fine, tufted, dense, pale yellow pile which obscures the ground color. The proboscis is rather small, subcylindrical, and slightly swollen towards the base; the apex is bluntly rounded with a few, fine hairs, the base below has some long, fine pile and it is directed chiefly downward. Palpus of one segment, slender, with numerous, long, stiff, black hairs at the apex. The antenna is rather long and slender; the first segment is twice as long as the second. The third segment, style excluded, is a little longer than the first two segments combined. This third segment is quite slender, subcylindrical, widest at base, but nowhere as wide as the second segment; it is gently and slightly attenuate and bears at the apex an obliquely directed, short style attached to a very short microsegment. Style half as long as third segment.

Head, anterior aspect: The face below the antenna is an eighth of head width, strongly divergent and more than twice this width below. Subepistomal area large, oblique, nearly plane and pubescent. The face is pubescent with dense, long micropubescence laterally above but without pile; the middle of the protuberant portion bears a wide, dense, vertical band of extremely long, slender bristles, the upper ones are curved and directed forward, the lower ones directed obliquely downward. Sides of subepistoma with a fringe of more slender bristles. The front is distinctly divergent and bears an extensive patch of long, fine hairs; vertex convergent, shallowly excavated, the ocellar protuberance low, abrupt and with 7 or 8 pairs of fine, long hairs. Central eye facets enlarged.

Thorax: The thorax is pollinose including the pleuron. The mesonotum is strongly convex and abrupt anteriorly, sloping behind. The mesonotal pile is scanty, quite fine and restricted to the dorsocentral elements which are laterally expanded to the humerus and along the lateral margins. There is a double, irregular row or narrow band of long, manelike, slender, thickset, acrostical bristles; the dorsocentral elements posteriorly become extremely long but remain slender; they are numerous and the long, stiff, bristly pile medially in front of the scutellum is dense. There is a bare stripe on each side of the acrostical elements. Humerus with fine pile only; there are 2 notopleural, 1 supraalar, 2 postalar, and 5 pairs of exceedingly long, slender scutellar bristles. Scutellum thick, with shallowly concave margin; the surface is pollinose with abundant, long, fine, erect pile. Propleuron with long, fine, scattered pile on the upper portion but the anterior ventral element has a dense tuft of delicate, whitish pile. Pronotum with stiff hairs but no bristles. The upper border of the mesopleuron, its posterior half, a large patch on the pteropleuron and upper sternopleuron each with numerous, very long, fine hairs. Hypopleuron and metapleuron both with a vertical band of extremely long, stiff, bristly hairs, some of which might be considered very weak bristles. Hypopleuron with differentiated patch spot. Metanotal slopes with abundant, long pile which is longer and even more abundant on the ventral metasternum; postmetacoxal area membranous; tegula with 2 stiff hairs; posterior basalare with 2 or 3 stiff hairs; squama with a multiple fringe.

Legs: The hind femur is rather slender and slightly elongate; anterior four femora slightly thickened basally; all bristles black, rather long, stout basally but tending to be slender and fine apically. Hind femur with short, appressed setae dorsally and fine, erect pile below; it bears a medial apical bristle, a strong dorsolateral a short distance back from the apex; 2 or 3 extremely fine, lateral; 4 stout, long, ventrolateral; and 5 to 7 still longer ventral bristles. Hind tibia with only appressed setae and a brush of setae beginning at the basal third; bristles consist of 3 dorsal, 4 dorsolateral, and 3 ventrolateral bristles beginning at the middle; apex with 1 dorsal, 2 anterior, 3 medial, 3 ventral bristles. Middle femur with 2 posterior apical, 2 very stout anterior at basal third and just beyond the middle; and also 4 long, stout, ventral bristles. Middle tibial bristles are quite long and attenuate and consist of 7 posterior, 5 anterior, 1 stout ventral bristle placed at the outer fifth; apical circlet of 10 bristles; considerable long, fine, erect pile considerably increased in quantity on all sides except anteriorly. Anterior tibia with 4 short dorsal, 2 posterodorsal, 3 to 6 extremely long, attenuate posteroventral and a few other long, fine hairs and long, anteroventral elements and with a setate brush; apex with 14 bristles. Tarsi have long pulvilli, sharp claws; empodium only half as long as claws.

Wings: The marginal cell is closed with a long stalk; the anterior branch of the third vein ends at wing apex; the second submarginal cell is narrowed from behind; fourth posterior cell closed and petiolate, convex anteriorly and distally; the second basal cell ends in two veins; anal cell closed; alula large, ambient vein complete. Male wings white on the basal third.

Abdomen: The abdomen is cylindroid, scarcely tapered, except at base; that of female slightly more tapered. First tergite moderately swollen laterally. Pile of abdomen rather short, fine and erect, but extremely long, abundant and fine on the sides of the first and second segments in both sexes and somewhat shorter on the third segment. Sternites with abundant, quite long, stiff, erect pile, the first sternite included. Sides of first segment with 7 very long, rather slender bristles in males only. Bristles absent on second and third segments in both sexes. Fourth segment of male with conspicuous, postmarginal fringe of 10 to 12 rather stout, backwardly curved, fringelike, black or partly pale bristles. Fifth segment also with 10 to 12 similar, stout bristles. In the female the fourth segment has 4 weak, pale bristles; fifth segment with 4 to 6 somewhat more stout, black bristles; sixth segment with 6 long, moderately stout, black bristles; seventh segment with 3 bristles. Males with eight tergites; females with the eighth tergite extremely short and incorporated in ovipositor. In the males the eighth tergite is two-thirds as long as the seventh; seventh slightly shorter than the six; all others slightly and progressively increased in length. Male terminalia large, elongate, almost entirely consisting of the superior forceps. Gonopod short. Female eighth tergite extremely short, apically and obliquely truncate; the eighth segment is somewhat compressed laterally; no spines or spinous bristles present. Ninth tergite extremely short, the tenth only a little longer.

Distribution: Neotropical: *Stizolestes nigriventris* Philippi (1865). From the Chilean subregion.

Genus *Philonicus* Loew

FIGURES 774, 1514, 1523, 2263, 2328, 2491, 2495

Philonicus Loew, Linnaea Entomologica, vol. 4, p. 144, 1849. Type of genus: *Asilus albiceps* Meigen, 1820, by monotypy.

Philonotus Neuhaus, Diptera marchica, p. 67, 1886. Type of genus: *Asilus albiceps* Meigen, 1820, by monotypy. Unnecessary change of name.

Short, pilose, bristly flies of less than medium size with cylindrical, tapered abdomen. They are characterized by the moderately prominent, facial gibbosity, the relatively narrow face, the shallowly excavated vertex. Strong, long, dorsolateral bristles begin abruptly at the wing level, but the scutellum has only 1 pair of bristles. The end segment of the female terminalia bears characteristic spines. Length 12 to 18 mm.

Head, lateral aspect: The face on the upper half is nearly plane with the eye or very slightly produced and bears a moderately prominent, rounded and elevated gibbosity below. Eye slightly recessive anteriorly below. The occiput is thick and prominent throughout, extending to the vertex; occipital pile fine and scanty above, becoming dense, long and copious below, with curled ends; bristles begin at the middle and consist of 15 stout but short and slightly curled elements. The proboscis is short, slightly swollen towards the base, stout and subcylindrical; it has a high medial ridge, the apex bears stiff pile curled forward. The base below has a few, long, stiff hairs. Palpus of one segment, rather stout subapically with relatively short, stiff pile. The antenna is attached at the upper third of the head and the first two segments nearly equal in length. The third segment is laterally compressed, slightly wider than the second segment at the basal third; from this point it tapers to the outer third and is then more gently narrowed to the apex. The third segment is equal to the combined length of the first two segments; it bears a short microsegment and a thick style which is very slightly longer than the third segment itself; apex with a minute spine. The first antennal segment carries several stiff, appressed setae above and more numerous setae below and 1 or 2 fine, long hairs. Second segment with 5 or 6 stiff setae ventrally, fewer above; third segment with 1 or 2 minute setae dorsally.

Head, anterior aspect: The face below the antenna is less than one-fourth the head width and only slightly divergent below; subepistomal area large, oblique, nearly plane. The face is pubescent and bears numerous, prominent, rather long bristles on the middle of the gibbosity. The upper bristles are directed straight forward, the others curved obliquely downward; the bristles are continued down along the sides of the subepistoma. Front slightly divergent, the vertex slightly convergent. Sides of the front with a few, weak bristles. Vertex shallowly excavated with slanting sides. Ocellarium moderately large with 4 short, curled bristly hairs. Eye facets enlarged centrally.

Thorax: The thorax is pollinose; the pile of the mesonotum is scanty but uniformly distributed and consists of fine, suberect, basally stout setae. Acrostical elements present but poorly differentiated across the middle of the mesonotum. Dorsocentral bristles differentiated only across the wing level, where they become abruptly long, stout, with 4 in each row. Humerus with erect, fine pile. The lateral mesonotal bristles are stout and long and consist of 2 notopleural, 1 supraalar, 1 suprapostalar, 2 postalar and 1 pair of scutellar bristles. The scutellum is thick, convex, with impressed rim and rather fine, scattered, erect pile. Propleuron with dense, long, tufted pile below and long pile posteriorly; the ventral posterior section bears 3 slender bristles; pronotum with weak bristles. Mesopleuron dorsally with a band of very fine, erect pile, posteriorly with only a few hairs. Upper sternopleuron with a large patch of long, fine, erect pile; pteropleuron with a similar patch; posthypopleuron with 1 to 3 stout bristles and several long hairs. Metapleuron with a fanlike vertical row of about 9 or 10 bristles, the lower 3 or 4 are stronger than the upper bristles; metanotal slopes with long, fine pile; postmetacoxal area membranous; tegula pubescent only; squama with a multiple fringe. Prosternum widely fused laterally, only slightly reduced posterolaterally.

Legs: The hind femur and tibia are moderately elongate and relatively slender. The anterior femur is scarcely thickened toward the base; all the femora and tibiae are densely appressed setate on all surfaces. The hind femur bears a pair of stout bristles dorsally at the apex, 1 on each side, a similar pair subapically at the outer sixth; the outer members form part of a dorsolateral row of 5 bristles. Ventrolaterally, near the base there are 3 weak, short bristles. There are 3 long, ventral bristles at the middle and before it, and a medial, appressed row of 10 or 12 bristles. The hind tibia bears 2 strong, dorsomedial, 2 dorsolateral and 2 ventrolateral bristles, all distributed along the middle third. In addition, near the base lies a pair of dorsal bristles which should be included in these rows, and there are 3 ventral elements, increasing in length. Apex with 1 dorsal, 2 lateral, 3 long and 2 quite short ventral bristles. Hind basitarsus rather slender and elongate and nearly as long as the remaining segments together; second to fourth segments equal in length. Middle femur with 1 stout posteroapical, 1 weak anteroapical, 1 stout anterior at the outer third, 3 short anteroventral and 5 posteroventral bristles. The middle tibia bears 2 stout dorsal on the outer half, 2 similar anterior, 3 posterior, 2 posteroventral, 1 at the outer third especially long and stout and with 2 ventral bristles of similar character.

The anterior femur characterized by 3 relatively stout, posterior bristles on the outer half, the last one only is subapical, and short, stout, anteroapical bristles and 5 more fine, long, stiff hairs below. The anterior tibia has 3 anterodorsal, the basal element longer and stouter, 2 stout, central dorsal, preceded by 2 weak elements and followed by 1 weak bristle and 3 rather long, stout, posterior bristles. The apical circlet has 12 bristles. Posteroapical bristles of the tarsal segment especially long and stout; tarsi with large, nearly rectangular, long pulvilli, long, basically stout empodium, sharp claws bent chiefly at the apex.

Wings: The wings are hyaline or slightly tinged and anteriorly rippled but the costa and marginal cells not expanded and the wing not wider basally. The marginal cell is closed with a short stalk; the anterior branch of the third vein ends slightly but distinctly above the apex. The second submarginal cell is scarcely narrowed in the middle and the second posterior cell only a little widened basally; fourth posterior cell closed and stalked, slightly but distinctly convex anteriorly; anal cell closed and stalked; second basal cell ends in two veins; alula large, ambient vein complete.

Abdomen: The abdomen is distinctly narrower than the mesonotum, slightly tapered and cylindrical and as long as the wings. The pile is abundant but flat appressed and setate, only the sides of the first two tergites bear long, fine, erect, lateral pile; the third tergite has a very few, erect hairs laterally. Sternites, except the last three, bear long, erect pile. Bristles are present on all the tergites but weak on the last three. The first tergite has 2 stout, long bristles and stiff, long pile. Second, third and fourth tergites with especially prominent, long, stout, nearly erect bristles. Male with eight tergites, the eighth is quite short and about a fifth as long as the preceding tergite. Male terminalia large, elongate, extended posteriorly, not rotate. The superior forceps elongate and slender, the apex of each half tends to curve to the midline, leaving a characteristic, enclosed, open space beyond the gonopod. Gonopod about half as long as the upper forceps; hypandrium well developed, with transverse margin. Aedeagus with three prongs, but retained within the ventrally open cavity. Proctiger prominent, protruded but oblique. The female terminalia consist of the eighth segment, which is about as long as the seventh, is polished and shining and posteriorly compressed laterally. The sternite is also compressed and extends below the ninth tergite. Ninth tergite a little longer than the tenth. At the apex the tenth tergite characteristically bears on each side 4 sharp spines of decreasing size, the largest element dorsal.

Distribution: Nearctic: *Philonicus arizonensis* Williston (1893); *fuscatus* Hine (1909) [=*obscurus* Hine (1907) not Meigen]; *limpidipennis* Hine (1909); *rufipennis* Hine (1907).

Neotropical: *Philonicus tuxpanganus* Bellardi (1862).

Palaearctic. *Philonicus albiceps* Meigen (1820) [=*albibarbus* Zeller (1840), *canescens* Wiedemann in Meigen (1820), *marinus* Becker (1923), *nudus* Loew (1840), *pulcher* Becker (1923)]; *domesticus* Ricardo (1920); *dorsiger* Wiedemann (1828); *elutus* Loew (1871); *scaurus* Walker (1849); *sinaiticus* Efflatoun (1934).

Oriental: *Philonicus nigrosetosus* Wulp (1881).

Australian: *Philonicus longulus* Wulp (1872).

Country unknown: *Philonicus vagans* Wiedemann (1828).

The immature stages of *Philonicus albiceps* have been described and illustrated by Melin (1923).

Verrall (1909) assigned *Asilus delector* Harris (1782), to synonymy under *Philonicus albiceps.*

Genus *Machimus* Loew

FIGURES 332, 775, 1533, 1542, 2308, 2331, 2492, 2496

Machimus Loew, Linnaea Entomologica, vol. 4, p. 1, 1849. Type of genus: *Asilus chrysitis* Meigen, 1820. Designated by Coquillett, 1910, the second of 15 species.

Machimus has one subgenus, *Conosiphon* Becker.

Medium size to large flies, characterized by the prominent gibbosity of the face, which is densely covered with bristles. There are stout, postlateral bristles on most tergites. The terminal proctiger of the female is free. The apical lobelike or lappetlike extension of the male eighth sternite is shared by *Eutolmus* Loew but is rounded at the apex in *Machimus* and tends to be excised in *Eutolmus.* In addition, the thick, scutellar disc is long, bristly pilose and the aedeagus has 5 prongs. Sternites with a few bristles. Length 12 to 30 mm.

Head, lateral aspect: The head is of medium length, the face quite prominent except upon the upper fourth beneath the antenna, where it is nearly plane with the eye. The occiput is well developed throughout, more prominent on the ventral fourth due to the distinct posteroventral recession of the eye. The proboscis has a rounded apex; the apex distally has numerous, long, stiff hairs below and laterally. The whole structure is cylindrical, extending beyond the face. Palpus of one segment, elongate, with numerous bristles and with a trace of the basal segment. The antenna are attached a little above the middle of the head; they are comparatively elongate and together with the style are fully as long as the head. The first and second segments are long, the second segment only a little shorter than the first; the first segment bears 2 or 3 pairs of long, stout bristles ventrally and other long, stiff hairs both ventrally, laterally, and above. The third segment is elongate and nearly as long as the first two combined but usually not wider than the second segment; it bears a short microsegment followed by a moderately long, stout style, with apical bristle. Style and microsegment together are as long as the third segment.

Head, anterior aspect: The face below the antenna is a fifth the head width and strongly divergent below; it is pubescent, generally with little or no pile but with the middle third and gibbous portion bearing numerous, long, slender or stout, curved bristles. Subepistomal area large, oblique, concave, bordered by numerous, slender bristles. The cheeks are moderately large and also pubescent. Front short, pubescent with an ocular row of short bristles on the upper front and continued back between the ocelli, and with a similar, linear, subocular row confined to the front. The front is a little widened, more strongly narrowed at the vertex. The vertex is deeply excavated, the ocellarium large, with 3 or 4 pairs of bristles between the ocelli and 2 or 3 pairs of postocellar bristles. Upper occipital bristles especially stout and barely curved or straight.

Thorax: The mesonotum is high and rather abrupt both anteriorly and posteriorly; it is pollinose with rather dense, nearly erect, comparatively long setae. Acrostical elements are not differentiated and dorsocentral bristles occur only posteriorly where there may be 4 to 9 in each row, long and stout. Humerus with setae and pile. The lateral complement of long, stout bristles consists of: 1 weak posthumeral, 2 notopleural, 1 supraalar, 1 postsupraalar, 2 postalar, and 2 to 5 pairs of scutellar bristles. Scutellum convex, thick, with distinct impressed rim, pollinose and with rather dense, long, bristly pile on the disc and sometimes in the margin. Metanotal callosity with a dense tuft of bristly pile. Pronotum with stout bristles and dense pile. Upper and posterior mesopleuron with pile and a few setae; sternopleuron with scattered hairs; pteropleuron with a tuft of long pile; anterior basalare with 2 or 3 small bristles; posthypopleuron and metapleuron with a vertical row of both long, stout bristles and bristly pile. Prosternum dissociated. Postmetacoxal area membranous.

Legs: The femora are quite stout, the first 4 a little thickened. The pile of the legs consists of dense, appressed bristles or setae; the bristles are stout, a little blunt at apex and numerous, especially on the last 4 femora. Hind femur with 5 dorsolateral bristles, a medial pair of bristles set some distance from the apex, a vertical row of 3 lateral and an oblique row of 3 medial bristles close to the apex, 8 ventrolateral, and 6 ventromedial bristles. Middle femur with 2 anterior bristles, and 2 anteroventral, or sometimes as many as 4. Posteriorly, there is an oblique row of 3 bristles at the apex, 1 anteriorly at the apex, and 1 ventrally, sometimes absent. Anterior femur usually with 1 or 2 bristles at the apex anteriorly, sometimes ventrally and in the type of genus two posterodorsally beyond the middle. All these femora have rather dense, long, stiff pile ventrally and laterally. Hind tibia with only 3 bristles dorsolaterally, 2 dorsomedially and 2 ventrolaterally; sometimes with 1 ventromedially. Remaining tibia with similarly reduced bristles. The anterior tibia may have only a single, long, stout bristle posteriorly, 7 short, posterodorsal bristles, 2 stout, basal anterobasal bristles; also it has an apical circlet of 8 bristles. Claws sharp, strongly bent at the apex; the pulvilli and empodium large.

Wings: The marginal cell widened in both sexes at the expense of the subcostal cell, especially so in the male and also moderately rippled. The marginal cell is closed and petiolate; both the first and second posterior cells are wide at the margin; the base of the second posterior cell is widened, twice as wide at the end of the discal cell. Fourth posterior cell closed and stalked; anal cell closed, alula large, the ambient vein complete.

Abdomen: The abdomen is comparatively robust at the base, cylindrical and slightly tapered; the pile is flat appressed and setate; the sternites bear long, bristly pile and weak bristles. Sides of first tergite with 5 or 6 long, stout bristles. The subapical posterior margin of at least the second to fifth tergites bear very prominent, stout bristles on fully the outer third; each segment usually has about 3 or sometimes as many as 7 bristles. Male with eight tergites but the eighth greatly shortened medially and longer laterally. Female with seven tergites excluding the ovipositor. Male terminalia large; the superior forceps prominent, divergent, but the apices converging and apposed; the dorsal proctiger is small, oblique, and erect. The gonopod is considerably shorter, the hypandrium extremely short. The eighth sternite characteristically is produced in most species into a rounded bristle-beset, scooplike process or lappet. The female ovipositor is composed of the moderately long, strongly compressed eighth segment together with the short ninth and the comparatively long, free, dorsal proctiger.

Distribution: Nearctic: *Machimus avidus* Wulp (1869); *occidentalis* Hine (1909).

Neotropical: *Machimus tenebrosus* Williston (1901) [=*griseus* Hine (1906)].

Palaearctic: *Machimus aberrans* Schiner (1868) [=*oophorus* Loew (1871)]; *acanthodes* Loew (1849); *alter* Becker (1923); *annulipes* Brullé (1832) [=*basalis* Loew (1849), *cerdo* Gerstaecker (1861)]; *antennatus* Becker (1908); *armipes* Becker (1913); *atricapillus* Fallén (1814) [=*bicornis* Zeller (1840), *opacus* Meigen (1820), ?*plebeius* Meigen (1820), *rufimanus* Meigen (1820), *subulatus* Loew (1840)], *atricapillus* *calceatus* Meigen (1820); *atripes* Loew (1854); *caliginosus* Meigen (1820) [=*apicatus* Loew (1848), *lugens* Loew (1849)], *caliginosus diagonalis* Pandellé (1905); *chrysitis* Meigen (1820) [=*femoralis* Zeller (1840)]; *cinerarius* Pallas in Wiedemann (1818); *cingulifer* Becker (1913); *concinnus* Loew (1870) [=*dactyliferus* Strobl (1905)]; *cribratus* Loew (1849) [=*substriatus* Becker (1915)]; *cyanopus* Loew (1849); *dasypygus* Loew (1849) [=*flaviscopula* Pandellé, ?*grandipyga* Becker (1923), *ibericus* Villeneuve (1920)]; *debilis* Becker (1923); *divisus* Becker (1923); *dubiosus* Becker (1923); *elegans* Loew (1849); *ermineus* Becker (1907); *fimbriatus* Meigen (1804) [=?*cappucinus* A. Costa (1854), *colubrinus* Wiedemann in Meigen (1820)]; *fortis* Loew (1849) [=*flavopilosus* Macquart (1949), *hirtipes* Macquart (1849)]; *fuscus* Macquart (1839); *globifer* Strobl (1906); *gratiosus* Loew (1871); *ibizensis* Gil Collado (1932); *intricans* Becker (1923); *kruperi* Becker (1923); *lacinulatus* Loew (1854) [=*gracilis* Becker (1923)]; *laevis* Becker (1923); *linearis* Becker (1923); *lucentinus* Strobl (1909); *macropthalmus* Loew (1871); *madeirensis* Schiner (1868); *meridionalis* Efflatoun (1934); *minusculus* Bezzi (1899); *modestus* Loew (1849); *monticola* Frey (1940); *mystacinus* Becker (1923); *nevadensis* Strobl (1909); *nigrifemoratus* Macquart (1839); *nigrosetosus* Séguy (1941); *pauper* Becker (1907); *perniciosus* Becker (1923); *perplexus* Becker (1915); *pilipes* Meigen (1920) [=*armatus* Jaennicke (1867), *fuscocinereus* Macquart (1838), *hispanus* Loew (1871)]; *portosanctanus* Cockerell (1921); *pseudogonatistes* Villeneuve (1930); *pyrenaicus* Becker (1923); *rudis* Becker (1923); *rusticus* Meigen (1820) [=*genualis* Zeller (1840), *gonatistes* Zeller (1840), *obscurus* Meigen (1820)], *rusticus spinifemoratus* Villeneuve (1911); *sagittarius* Villeneuve (1930); *sareptanus* Becker (1923); *scutellaris* Coquillett (1898) [=*aurulentus* Becker (1925)]; *setibarbus* Loew (1849) [=*setiventris* Engel (1928)]; *similis* Becker (1923); *stenolabes* Loew (1871) female; *strandi* Duda (1940); *subdolus* Loew (1871); *tephraeus* Wiedemann in Meigen (1820); *thoracius* Loew (1849).

Ethiopian: *Machimus caudiculatus* Speiser (1910); *lepturus* Gerstaecker (1871); *penicillatus* Speiser (1910); *ugandiensis* Ricardo (1919).

Oriental: *Machimus assamensis* Ricardo (1919); *atratulus* Walker (1855); *chinensis* Ricardo (1919); *coerulescens* Ricardo (1919); *coruscus* Wulp (1898); *dubius* Ricardo (1919); *hirsutus* Bromley (1935); *hirtipes* Ricardo (1919); *infrafemoralis* Bromley (1935); *inutilis* Bromley (1935); *khasiensis* Ricardo (1919); *montanus* Ricardo (1919); *nigrinus* Ricardo (1919); *pallipes* Ricardo (1922); *parvus* Ricardo (1919); *rufipes* Ricardo (1922); *subgenitalis* Bromley (1935); *tibialis* Ricardo (1919).

Australian: *Machimus forresti* Dakin and Fordham (1922).

The immature stages of *Machimus atricapillus* have been studied by Beling (1882) and Melin (1923).

Verrall (1909) placed *Asilus nigripes* Macquart in his appendix list of Palaearctic species as a synonym of *Machimus setibarbus* Loew.

Subgenus *Conosiphon* Becker

Conosiphon Becker, Revision der Loew'schen Diptera Asilica in Linnaea Entomologica 1848–1849, p. 36, 1923. Type of subgenus: *Dysmachus pauper* Becker, 1907, by original designation.

Becker (1923), on the basis of certain differences in the female terminalia (ovipositor) and the character of the mesonotal pile, proposed the name *Conosiphon* to distinguish several European asilids, especially from *Machimus* Loew, *sensu stricto*. The characters given by Becker (1923) and Engel (1928) are here set forth: (1) Face gibbosity strong and prominent and occupying most of the face and with a well developed ledge above; (2) Dorsocentral bristles prominent on the front portion of the mesonotum; and (3) End lamella of the ovipositor not wedged in as in *Dysmachus*, but stylelike in profile.

A total of five species of *Machimus* were assigned by Engel (1928) to the subgenus *Conosiphon*. Three of these, *pauper* Becker (1907), *fuscus* Macquart (1839), and *corsicus* Schiner (1867), were included in his key to *Machimus* and specifically designated as belonging to the subgenus *Conosiphon*. Two others, *alter* Becker (1923) and *similis* Becker (1923) were unknown to Engel and were included only in his text; these two species, together with *fuscus* Macquart are included in Engel's text in the subgenus *Conosiphon*, whereas *corsicus* in the text was assigned to *Tolmerus* Loew, a further subdivision of *Machimus*, in the wide sense. I call attention here to the use of the name *pauper* Becker (1907) for the species he described under the genus *Dysmachus* Loew and in Becker (1923) made the type of the subgenus *Conosiphon*, and which Engel (1928) designated as belonging to the subgenus *Conosiphon* under his text figure, but not otherwise in his text. The other species of *pauper* Becker (1923) was described as a *Tolmerus* and is left in Engel's text in *Tolmerus*. Under the *Tolmerus* species list I have included both *pauper* Becker (1923) and *corsicus* Schiner (1867). Although I have pointed out above that Engel (1928) included *corsicus* Schiner in his key under subgenus *Conosiphon* he placed *corsicus* in his text under *Tolmerus*.

Genus *Trichomachimus* Engel

FIGURES 331, 734, 1515, 1524

Trichomachimus Engel, Arkiv Zool., vol. 25A, p. 10, 1934. Type of genus: *Machimus pubescens* Ricardo, 1922, by original designation.

Flies of the general characters of *Machimus* Meigen but distinguished by rather dense, long pile on certain areas. These consist of the lower occiput, the posterior mesonotum, the ventral and posterior surfaces of the femora and the anterior tibia and still more conspicuously on the comparatively short, robust and slightly compressed abdomen. The second to fifth tergites are especially well covered with long, rather coarse, matted pile. Length 20 mm.

Head, lateral aspect: The head is rather longer than in *Machimus;* the gibbosity of the face is large and prominent leaving the upper fourth shorter, rather more prominent than in *Machimus.* The occiput is well developed, especially on the lower third; the eye is strongly recessive posteroventrally. Pile of lower occiput remarkably long, fine, dense and tufted. The upper occiput behind the eye has 6 pairs of stout bristles and 7 or 8 pairs of weak bristles still lower on the head. The proboscis is comparatively short and quite robust, bluntly pointed. Antenna attached a little above the middle of the head, the first two segments with numerous, slender, bristly hairs. Third segment similar to *Machimus.*

Head, anterior aspect: The face below the antenna is less than a fifth the head width and strongly divergent below; it is pubescent, without pile on the short, dorsal portion; the gibbosity bears quite numerous, long, slender bristles, which are continued down on the cheeks. The front is short, pollinose, divergent, with a wide, undifferentiated band of quite long, slender bristles or bristly hairs on each lateral third; the medial third of the front is sunken. The vertex is narrowed and moderately excavated; the ocellarium is unusually large and low, with between the ocelli, lateral patches of about 12 long, slender, bristly hairs and other hairs behind the ocelli.

Thorax: The mesonotum has numerous, long, bristly setae, nearly erect; acrostical elements are undifferentiated; there are dorsocentral bristles only on the posterior half but all of them are slender. Posterior fourth of mesonotum with a broad band of numerous, long, bristly hairs. The lateral bristles are stout and consist of 2 notopleural, 2 supraalar, 2 postsupraalar, 3 or 4 postalar and equally long, bristly pile. Scutellar margin with 8 to 10 pairs of long, slender bristles in each of 2 rows and additional, equally long, stiff pile on the disc. All tufts of pleural pile more dense, often longer than in *Machimus.* Metanotal callosity exceptionally bullose with dense, bristly pile. Postmetacoxal area membranous. The metasternum is densely long pilose.

Legs: The legs are similar to *Machimus;* the femora have few bristles but more extensive, long, stiff hairs continued on to the tibiae, especially the first four pairs. The tibial bristles are numerous and quite stout, more or less reduced on the first pair. Hind femur with 7 ventrolateral bristles near the apex. The hind tibia has 10 stout, dorsolateral bristles, 4 ventrolateral and 4 ventromedial bristles. Claws sharp, bent apically, the pulvilli and empodium long.

Wings: The wings are similar to *Machimus*; second submarginal cell is widened both above and below its origin and a little constricted near the middle. The first posterior cell is considerably narrowed in the middle because of the second submarginal cell.

Abdomen: The abdomen is shorter and more robust than in *Machimus* and densely pilose on the second to fifth tergites. Terminalia similar.

Distribution: Palaearctic: *Trichomachimus excelsus* Ricardo (1922); *pubescens* Ricardo (1922).

Genus *Eutolmus* Loew

FIGURES 365, 771, 1509, 1518, 2320, 2347, 2385, 2388

Eutolmus Loew, Linnaea Entomologica, vol. 3, p. 459, 1848.
Type of genus: *Asilus rufibarbis* Meigen, 1820, in Engel, 1928, by original designation.

Medium size flies related to *Machimus* Loew. The face has a rather prominent gibbosity with numerous, long bristles. Dorsocentral bristles on the thorax are confined to the posterior half; the scutellar margin bears several pairs of bristles, but in contrast, the disc usually has only a few, fine, scanty hairs. Metanotal callosity bullose and bristly. The aedeagus has three prongs; the eighth sternite of the male has a rather long, excised process at the apex. The females resemble *Dysmachus* Loew by likewise possessing a remarkably compressed ovipositor with wedged-in proctiger and I believe their true relationship is with this genus. Length 12 to 20 mm.

Head, lateral aspect: The head is comparatively long and the face prominent with a rather strong gibbosity, densely covered with bristles, some fine and some stout. The upper third of the face or less is nearly plane with the eye and bears micropubescence only. The occiput is moderately prominent throughout and not more prominent below even though the ventral fourth of the eye is strongly and angularly recessive. Lower occipital pile dense and fine; upper pile with slender bristles and in addition some 5 pairs of more stout bristles situated behind the upper eye corners. These bristles are slightly curved. The proboscis is comparatively weak and cylindrical and a little swollen at the base; it is bluntly pointed with short, apical bristles and it is barely extended beyond the face; it is thrust obliquely forward. The palpus is of only medium size; it is excavated on the basal half and bears weak, apical bristles; there appears to be a trace of the basal segment. Antenna attached a little below the upper third of the head, elongate, as long as the head; the first two segments are rather long and slender, the second segment shorter. The third segment is as long as the combined length of the first two segments; it has a short, distinct microsegment, comparatively short, stout style, no longer than the third segment and bears a bristle at tip.

Head, anterior aspect: The face below antenna a sixth the head width, and strongly divergent below; it is micropubescent and pile generally is confined to the lower side of the concave, oblique, subepistomal area. Bristles of face are numerous, usually more slender on the upper half of the gibbosity, stout below and continued down the sides of the subepistoma. The front is short, pollinose and sunken in the middle; the lateral fourth of the front has a double row of rather long, slender bristles, the sides divergent. The vertex is narrowed and only moderately excavated; the rather large, rounded ocellarium is set far forward with 3 or 4 pairs of central bristles and as many others behind.

Thorax: The mesonotum is rather high; it is strongly sloping posteriorly and abrupt anteriorly and a little compressed laterally on the anterior half. The pile is erect and setate or bristly, except in front of the postalar region. Acrostical elements are undifferentiated; dorsocentral bristles are present and long and stout on the posterior half; humerus bristly pilose. The lateral complement of long, stout bristles consist of: 1 posthumeral, 2 notopleural, 2 supraalar, 1 postsupraalar, 2 postalar and 2 to 4 pairs of scutellar bristles. The scutellum is moderately thick and convex; it has impressed rim, pollen, and scanty, fine, erect pile. The metanotal callosity is bullose and bristly pilose. Propleuron, upper mesopleuron, sternopleuron, pteropleuron all with tufts of long hairs; tegula pubescent only. The posterior hypopleuron and metapleuron each have a vertical row of bristles. Postmetacoxal area membranous; prosternum dissociated.

Legs: The femora are stout, the first four slightly swollen basally; all tibiae likewise are stout; both are densely appressed, fine setate. Bristles moderately abundant, quite stout and semiblunt. The hind femur bears 2 lateral bristles along the middle, a pair dorsally at the subapex, again at the apex and several weaker bristles ventrolaterally and 1 bristle at the apex. The hind tibia bears stout bristles, 3 dorsolateral, 2 dorsomedial on the basal half, 2 ventrolateral on the distal half and 6 at the apex. Middle femur with 3 stout lateral bristles in the middle, sometimes a basidorsal element, 2 at apex posteriorly and weaker bristles at the apex anteriorly. Middle tibia with quite weak bristles at the apex anteriorly and posteriorly and a posterodorsal fringe of bristly hairs. Anterior tibia similar to the hind pair. Basitarsus as long as the next two segments. Coxa with lateral bristles. Claws moderately sharp, chiefly bent at apex. Pulvilli and empodium large.

Wings: The marginal cell closed and petiolate, slightly wider in the male at the expense of the subcosta cell and gently rippled. The second basal cell is a little narrowed in the middle. Second posterior cell at least twice as wide at the base as the end of the discal cell. Fourth posterior and anal cells closed and stalked. Alula large; ambient vein complete.

Abdomen: In the abdomen only the first tergite is as wide as the mesonotum. The pile of the abdomen is rather scanty, appressed and setate. The sternites bear a few, scattered, long, bristly hairs. Postlateral bristles are well developed on at least the first 4 tergites and less pronounced on the remaining ones. The abdomen is subcylindrical and slightly tapered. Male with eight tergites, the eighth about half as long as the seventh, both medially and laterally. Females with seven tergites, those beyond incorporated in the ovipositor. The male terminalia tend to have an elongate, posteriorly convergent, superior forceps and a much shorter gonopod, together with erect, spatulate proctiger and a 3-pronged aedeagus. There is a rather conspicuous hypandrium and the eighth sternite is developed into a long, sometimes excised process of varying length. In some species it is distinctly shorter. The female terminalia are remarkably compressed and flattened laterally; the ninth tergite is nearly as long as the eighth, the dorsal proctiger wedged in at apex.

Distribution: Nearctic: *Eutolmus lecythus* Walker (1849) [=*femoralis* Macquart (1847].

Palaearctic: *Eutolmus albiventris* Villeneuve (1920); *annulatus* Becker (1923); *apiculatus* Loew (1848); *apicalis* Becker (1913); *brevistylus* Coquillett (1898); *calopus* Loew (1848); *excisus* Loew (1848); *facialis* Loew (1848); *graccus* Loew (1871); *haematoscelis* Gerstaecker (1861) [=male *stenolabes* Loew (1871)]; *immaculatus* Loew (1870); *implacidus* Loew (1870); *kiesenwetteri* Loew (1854)) [=*involvilis* Pandellé (1905), *hyalopterus* Loew (1871), *lacteipennis* Becker (1923), *variipennis* Strobl (1909)]; *leucacanthus* Loew (1871); *lusitanicus* Loew (1854); *mediocris* Becker (1923); *mordax* Loew (1948) [=*periscelis* Loew (1848)]; *parricida* Loew (1848); *pictipes* Loew (1848); *polypogon* Loew (1848); *rufibarbis* Meigen (1820); [=*forcipatus major* Fallén (1814)]; *sedakoffi* Loew (1854); *sinuatus* Loew (1854); *stratiotes* Gerstaecker (1861); *tolmeroides* Bromley (1928); *ussuriensis* Engel (1928).

Melin (1923) describes egg, larva, and pupa of *Eutolmus rufibarbis.*

It should be noted that *Asilus agrarius* Walker has been placed in synonymy under *Eutolmus lecythus* Walker. I have not seen *lecythus* and can not affirm the assignment of this species.

Genus *Dysmachus* Loew

FIGURES 299, 782, 1532, 1541, 2294, 2317, 2386, 2389

Dysmachus Loew, Abh. Naturw. Ver. Halle, vol. 2, p. 143, 1860. Type of genus: *Asilus trigonus* Meigen, 1804. Designated by Coquillett, 1910, the third of four species.

Small or medium size flies of dull color, characterized by the prominent gibbosity of the face, the strong dorsocentral and acrostical bristles which are present anteriorly on the mesonotum and the prominent bristles present on the abdominal tergites, together with the compressed female terminalia. Males without any process from the eighth sternite. The eighth tergite is usually hidden medially. Length 12 to 20 mm.

Head, lateral aspect: The head is rather long, the gibbosity prominent, generally with flat sides laterally and the upper fourth of the face is plane with the eye and micropubescent only. The occiput is prominent, especially below. Lower fourth of eye angularly recessive; the lower half of the occiput is densely long pilose and bristles begin below the middle; these bristles are stout, the middle group is turned down, the upper group shorter and nearly straight but with dense, rather fine, long pile broadly behind the vertex. The proboscis is blunt at apex, more or less cylindrical but appearing compressed because of a rather high carina along the middle. Palpus small, slender, with weak bristles. Antenna attached a little below the upper third of the head and as long as the head; the first two segments are slender and rather long, the first segment bears a number of long, ventral, bristly hairs and sometimes 2 or 3 equally long, stout bristles. It has also lateral and dorsal, long, bristly hairs. The third segment is rather slender, a little widened in the middle, nearly or quite as long as the first two segments; microsegment is present and a short, stout, spine-tipped style, usually not as long as the second antennal segment.

Head, anterior aspect: The face below the antenna is less than a fifth the head width and strongly divergent below and micropubescent. The gibbosity has numerous, medial, slender and sometimes stout bristles or also bristly hairs; all of the elements are long and extended in several rows almost the full lateral margin of the long, oblique, deeply concave subepistomal area. The front is moderately enlarged, pubescent, with a subocular row of bristly hairs and 2 upper bristles nearer the eye. It has nearly parallel sides and the vertex is only a little excavated with slanting sides; the large, low anterior ocellarium bears 3 or 4 pairs of central bristles and as many as 5 postocellar bristles.

Thorax: The mesonotum is rather high, sloping posteriorly and abrupt anteriorly; it bears quite scattered, erect, bristly or setate pile with the surface pollinose. There is a wide band of differentiated, dense, bristly acrostical elements with a nearly bare stripe on each side, continued anteriorly down the declivity. Slender, anterior dorsocentral elements become longer at the level just behind the humerus and generally remain slender and more numerous in front of the scutellum. Humerus bristly pilose; the notopleural area behind the humerus has as many as 4 very long, slender, bristly hairs; the lateral complement of stout bristles contains 1 posthumeral, as many as 4 notopleural, 4 or 5 supraalar, 2 suprapostalar, 4 postalar, and 3 or 4 pairs of scutellar bristles. Scutellum moderately thick, convex, with impressed rim, pollinose and with dense, long, stiff, discal hairs. Metanotal callosity bullose with long, bristly pile. Pronotum with bristles. The propleuron, upper and posterior mesopleuron, upper sternopleuron and pteropleuron each with tufts of pile. Posthypopleuron and metapleuron with vertical row or band of long, stout bristles. Prosternum dissociated. Postmetacoxal area membranous.

Legs: The femora are stout, the tibiae somewhat less so. First four femora distinctly swollen toward the base; these and the tibiae bear dense, appressed, coarse, setate pile. Bristles are unusually stout and numerous, except on the anterior femur. Hind femur with 5 or 6 dorsolateral, 9 ventrolateral, a few ventromedial and an apical, oblique, lateral row of 7 bristles continued on the opposite side as 5 bristles, Middle femur with 4 anterodorsal, as many as 7 anteroventral and 2 bristles at the apex posteriorly. Anterior femur with only an anterior, apical row of 5 bristles. Hind tibia with 5 or 6 dorsolateral, 3 or 4 dorsal and 3 dorsomedial bristles on the basal half, besides 4 or 5 ventrolateral bristles over the middle portion. Apex with only 6 or 7 bristles. Anterior 4 tibiae with rather similar bristle content and the posteroventral elements tend to be longer. Basitarsus as long as the next two segments. Bristles of the first two or three segments pronounced. Claws long, rather slender, sharp, bent at apex; the pulvilli and empodium large.

Wings: The marginal cell in the male slightly expanded at the expense of the subcostal cell and closed and petiolate. The third vein forks beyond the posterior crossvein and the base of the second posterior cell is only slightly widened. Wing faintly rippled. Fourth posterior cell and anal cell closed and stalked. Alula large; ambient vein complete.

Abdomen: The abdomen is rather shorter and generally more robust than *Machimus* Loew or *Eutolmus* Loew; it is subcylindrical and slightly tapered. The submarginal, postlateral bristles of the tergites are exceptionally prominent and numerous with 4 or 5 pairs on all tergites except the last two. The pile is subappressed, coarsely setate; sternites bear long, slender bristles which are numerous; the surface is pollinose. There tends to be mats of somewhat divergent hairs in the middle of the first several tergites. Males have eight tergites of gradually decreasing length; the eighth is almost concealed medially and very short laterally. Females with only seven, the remainder forming the ovipositor. The male terminalia is moderately large, with long, erect proctiger, very short gonopod and in the type of genus the hypandrium is concealed or absent; the eighth sternite is extremely short and unmodified. Female terminalia remarkably compressed laterally; the ninth tergite is about half as long as the eighth; the dorsal proctiger is flattened and wedged in. The whole outer half is coarsely microsetate and sometimes micropunctate to a more pronounced extent than in *Eutolmus*.

Distribution: Neotropical: *Dysmachus americanus* Macquart (1846); *strigitibia* Curran (1931).

Palaearctic: *Dysmachus albiciliatus* Loew (1854); *albiseta* Becker (1907); *albisetosus* Macquart (1850); *albovestitus* Villeneuve (1930); *appendiculatus* Schiner (1867); *atripes* Loew (1871); *basalis* Loew (1848); *bifurcus* Loew (1848) [= ?*nigripes* Megerle, Ms., in Meigen (1820), *varius* Meigen (1820), *perturbans* Becker (1923)]; *bilobus* Loew (1871); *bimucronatus* Loew (1854); *cephalenus* Loew (1871), *cephalenus bidentatus* Becker (1923); *cochleatus* Loew (1854); *cristatus* Wiedemann in Meigen (1820) [=*acutus* Loew (1870)]; *dasynotus* Loew (1871); *dasyproctus* Loew (1871); *decipiens* Wiedemann (1820) [=*multicolor* Schiner (1854), *variegatus* Meigen (1830), *varispinus* Strobl (1909)]; *digitulus* Becker (1923); ?*domitor* Meigen (1830); *elapsus* Villeneuve (1933); *cyanes-*

cens Villeneuve (1912); *femoratellus* Loew (1871); *fuscipennis* Meigen (1820) [=*spiniger* Zeller (1840)]; *hamulatus* Loew (1854) [=*quadriapiculatus* Strobl (1909), *rotulans* Pandellé (1905)]; *harpagonis* Séguy (1929); *harpax* Villeneuve (1904) [=*falcularis* Pandellé (1905)]; *hiulcus* Pandellé (1905); *macropterus* Loew (1854); *obtusus* Becker (1923); *periscelis* Macquart (1849); *picipes* Meigen (1820) [=*brunnicosus* Becker (1923), *cinereus* De Géer (1776), *?forcipatus* Linné (1758), *forcipula* Zeller (1840), *mixtus* Loew (1840), *pendulus* Becker (1923), *plebejus* Meigen (1820)]; *poecilus* Becker (1923); *praemorsus* Loew (1854) [=*foliiformis* Becker (1923), *?nigripennis* Macquart (1826), *tridens* Egger (1855)]; *putoni* Séguy (1927); *rectus* Becker (1923); *setiger* Loew (1848); *setipyga* Becker (1923); *stenogastrus* Loew (1871); *stylifer* Loew (1854); *theodori* Engel (1930) [=*albociliatus* Becker (1907)]; *tricuspis* Loew (1848) [=*kervillei* Villeneuve (1910)]; *trigonus* Meigen (1804) [=*albipilus* Meigen (1830), *hispidus* Zeller (1840), *pullus* Meigen (1830), *spurius* Loew (1871)]; *trilobus* Strobl (1898); *verticillatus* Becker (1907).

Dufour (1850), Lundbeck (1908), and de Meijere (1916) discuss or describe immature stages of *Dysmachus* species. Melin (1923) illustrates stages of *Dysmachus picipes* Meigen as *forcipula* Zeller.

Lestophonax, new genus

Figures 336, 783, 1549, 1558, 2218, 2498, 2499

Type of genus: *Lestophonax mallophoroides*, new species.

Robust flies characterized by the numerous, long bristles on the scutellar margin and disc; the prominent face has an abrupt dorsal ledge and the gibbosity bears copious, slender bristles; the antennal style is short and there are numerous, long, slender bristles or bristly hairs on the front and mesonotum. Legs rather densely long pilose. Length 15 mm.

Head, lateral aspect: The head is comparatively long, if the extensive face is included. The face is extensively produced on the lower three-fourths with dorsally, an abrupt ledge, above which lies a short, steep concavity plane with the eye and bordered above, beneath the antenna, by a moderately short extension of the face. The gibbous portion of the face is convex, with the sides quite steep and the cheeks prominent below. Occiput rather thick dorsally, still more prominent below due to the marked anteroventral recession of the eye on the lower third of the eye. Lower pile dense, coarse and long. Bristles begin at the middle of the head and include 4 or 5 especially stout bristles behind the upper eye corner and also deep-set, dorsal pile. Proboscis of medium width, blunt at apex, with fine, apical pile and distinct preapical crease. Ventrally the basal half bears numerous, long, coarse hairs. Palpus cylindrical, elongate, with many slender bristles. The antenna is attached a little above the middle of the eye; the first segment is more than twice as long as wide and nearly 1½ times longer than the second segment. The first and second segments bear long, slender bristles dorsally with similar bristles ventrally on the second segment and numerous, still longer, equally slender bristles on the lower surface of the second segment. Third segment 1½ times the combined length of the basal segment. At its widest point in the middle, the third segment almost equal in width to the second segment. It is a little narrowed at base and apex. Dorsally it has 3 or 4 fine setae and at the apex a very short microsegment followed by a short, stout, bristle-tipped style only about half as long as the third segment.

Head, anterior aspect: The width of the head is about 1⅔ the height of the eye. Face below antenna less than a fifth the head width and rather strongly widened below. Face surface covered with dense, appressed micropubescence. Beginning at the upper part of the gibbosity is a broad, medial band of numerous, long, quite fine bristles; this band becomes wider below and extends densely down the whole sides of the subepistoma. Face beneath antenna without pile. Front distinctly wider than the upper face, the vertex narrowed. The front is opaque, black pollinose with several rows of numerous, quite long, bristly hairs occupying the whole lateral fourth along the eye margin. Vertex moderately excavated, with steep sides; the large ocellarium low and bears 3 pairs of long, bristly hairs between the ocelli and 4 pairs behind the ocelli. Similar, equally long hairs are clustered in a patch on each side behind the vertex.

Thorax: The mesonotum is moderately high and convex posteriorly and more abruptly convex anteriorly. It is pollinose and bears numerous, quite long, fine, bristly hairs. There is a double acrostical row of such hairs. The dorsocentral elements become differentiated shortly in front of the suture and are exceptionally long but nowhere form more than very slender bristles. Lateral bristles are even longer and most of them quite slender. There are 2 moderately stout, notopleural, elements, 3 quite slender supraalar, 4 or 5 slender bristles on the postalar callosity. The scutellum has 6 pairs of moderately stout, very long bristles with an additional row of similar bristles across the disc and other scattered, long, fine hairs. Scutellum moderately thick, convex, with distinct impressed rim. Metanotal callosity with copious, coarse pile. Pleuron pollinose with long, slender bristles or bristly hairs on the upper sternopleuron, a conspicuous patch of similar, equally long elements on the pteropleuron; also there are equally long, perhaps more slender elements abundant over the dorsal mesopleuron. Pronotum with dense pile and at most 1 or 2 very weak bristles. Metapleuron with a large, oval patch of exceptionally long and very slender bristles and bristly hairs. Hypopleuron with similar but fewer elements. Postmetacoxal area membranous; prosternum dissociated.

Legs: The femora are all stout with only the anterior and middle femora slightly swollen. They are curious because of the abundant, very long, coarse hairs which they bear. Only the medial surface of the hind femur and a small portion dorsally near the apex of the middle femur has appressed pile. Hind femur with 3 lateral bristles of which only the last element at the outer fifth is stout. At this same point there is an equally stout, dorsolateral and ventrolateral bristle. Hind tibia with 2 long, stout, dorsolateral bristles, both near the middle; there are some even longer, more slender dorsomedial bristles and 2 shorter, stouter, ventral bristles situated on the outer half. Middle femur with 1 stout bristle posterodorsally near the apex. Middle tibia with 2 quite long, stout, anterodorsal bristles close to the middle, with 3 or 4 weak posterodorsal bristles, sometimes rather stout, and with a single long, stout, posterior bristle at the basal third, besides 1 ventrally and distally. Anterior femur with only the numerous, dense, long hairs characteristic of all the legs. Anterior femur with 3 or 4 moderately long, posterodorsal bristles and a single, long, stout posterior bristle at the apical fifth. Anterior basitarsus a little longer than the next two segments. Claws stout, sharp, bent at apex; pulvillus large, wide; the empodium long and bladelike.

Wings: The wings are tinged with brown; marginal cell closed with a comparatively short stalk. The second submarginal cell begins beyond the end of the discal cell and is basally widened above and below the third vein. Second posterior cell anteriorly expanded at base. Fourth posterior cell closed with a long stalk. Anal cell closed. Posterior crossvein absent. The anterior and posterior branches of the third vein end shortly above and below the apex of the wing. Alula large; ambient vein complete.

Abdomen: The base of the abdomen is nearly as wide as mesonotum in the males and even wider in the females. First segment much wider than the second. The abdomen is covered with short, appressed hairs narrowly down the middle of the tergites, rapidly changing to dense, very long, erect, coarse pile laterally; posteriorly and next to the wide pollinose margin this pile is even more stout but scarcely forms bristles. Among the numerous hairs on the side of the first segment are 4 very long, quite slender bristles. Males with eight tergites; the eighth visible only laterally, or at least only linearly above. The seventh tergite is about half as long as the sixth, the sixth half as long as the fifth. Females with eight segments, not incorporated in the ovipositor. Male terminalia unusually large, wide and high. The superior forceps are broad and thin distally with a quite deep, dorsal cleft. The proctiger turns upward or even backward. The gonopod is the largest element, bowl-shaped below, the halves meeting below and with a strong gap between the forceps. Hypandrium large. Females with the sixth, seventh, and eighth tergites progressively compressed laterally. While the eighth is still wide, it is perhaps even higher than wide. Ninth and tenth segments quite short; the eighth tergite bears numerous, long, slender bristles along the posterior margin. The eighth sternite bears a patch of such bristles on each side and the whole posterior border of the seventh sternite has even more conspicuous bristles.

Distribution: Neotropical. *Lestophonax mallophoroides*, new species.

Lestophonax mallophoroides, new species

Length 15 mm. Male, female. Head: The head is black; face very thinly dusted with greyish white micropubescence on the sides of the pronounced gibbosity. Upper lateral margins of face with a wedge-shaped, vertical stripe of appressed, coarse, yellowish micropubescence, leaving the upper middle face black. Front opaque black with black pollen. Pile of front, vertex, antenna, and of the face black; bristles of face very numerous, long and slender and black, except that in the middle ventrally above the epistomal margin there is a small cluster of long, yellow bristles enclosed by the black bristles. These pale bristles range in number from 10 to about 20. The ventral pile of the occiput is quite dense, long, and pale yellow. Proboscis with a tuft of black bristles ventrally in the middle but with short, yellow hairs at the apex and long, yellow hairs at the base below. Upper bristles of the occiput black and spinous. Some of the lower elements turned downward. Antenna, proboscis and palpus quite black, the latter has numerous, long, black hairs at the apex. Middle width of the third antennal segment a little more than 1½ times the basal width. Style and the very short microsegment not as long as the third segment.

Thorax: The thorax is black, thinly pollinose and mostly opaque or feebly shining. There is a slight greenish reflection from the thorax and pleuron. Down the mesonotum is a very narrow stripe of pale, brownish white pollen anteriorly, becoming greyish white posteriorly. From an oblique, posterior view there is a wider, submedial stripe of pale, greyish white pollen, which ends at the transverse suture, is continued narrowly along the suture to the sides and anteriorly widens out to include the whole area between and behind the humerus. Posteromedial corner of the humerus with brown pollen, the remainder with grey pollen. Scutellum thinly, grey pollinose with numerous, exceptionally long, slender bristles and bristly hairs on the disc; the margin with 5 pairs of still longer, slender, black bristles. All scutellar pile and bristles black except for 2 yellow hairs on each side. Rim of scutellum impressed, the grey pollinose metanotal callosities with abundant, yellow pile. Lower and middle propleuron densely yellow pilose, upper posterior propleuron black pilose behind, yellow pilose in front, the dorsal collar yellow pilose. Pteropleuron pollinose but with central black spot with changeable, pale pollen and bearing a large tuft of about 25 extremely long, slender, black bristles. Metapleural bristles loose, numerous, very long, black and covering a triangular patch. Hypopleuron with 4 long, black bristles above, more numerous yellow ones below.

Legs: The femora are relatively slender. Pile of the legs exceptionally long, erect and rather dense, except that on the dorsal surface of the hind femur and middle femur and the anterodorsal surface of the anterior femur the pile is rather matted, and although much shorter than the pile of the remaining surfaces, it is still long and coarse. Pile everywhere pale, brassy yellow, except on the anterior tibia and the outer half of the anterior femur and the dorsal surfaces of all of the tarsi where there are numerous, long, black, bristly hairs almost stout enough to be considered bristles. All the tibia and the middle and hind femora have a few, quite stout, long bristles. Hind femur with 2 such elements in the middle ventrally and with an odd cluster disposed in a curve laterally and dorsolaterally at the outer sixth, containing 6 such bristles and with 2 others dorsolaterally near the middle. Hind tibia with 4 to 6 dorsomedial, 2 very striking dorsolateral along the middle, and 2 ventrolateral bristles on the outer half. Middle femur with a single very stout bristle anteriorly on the outer third, middle tibia with 2 such stout bristles anterodorsally in the middle, 3 posterodorsally in the middle, 2 posteriorly at basal and apical third, 2 anteroventrally on the outer half, and 1 posteroventrally on the outer third. Anterior tibia with 2 stout, distal, dorsal bristles, not very long but with 1 long, very stout, striking, posterior bristle at the outer fourth and with the posterior and posteroventral fringes of pile exceptionally dense and conspicuous on this tibia. Tarsi relatively short, the three intermediate segments beadlike, the anterior basitarsus barely longer than the next two segments, the hind basitarsus long as the next three. Claws black, the extreme base reddish brown; the long, wide, spatulate pulvilli light brown.

Wings: The wings are distinctly, uniformly tinged with pale, brownish or greyish yellow. The villi are exceptionally minute, almost absent on the basal cell and all of the discal cell, except a small posterior triangle near the apex. Base of the costa densely, long, golden pilose in both sexes.

Abdomen: The abdomen is as wide as the mesonotum or even wider at the end of the fourth tergite in females, and also wider on the first tergite. Abdomen shining black with narrow, pale, brownish yellow, pollinose postmargins to the tergites, widest on the second and fourth tergites and with dense, long, bright, golden pile, which is shorter and appressed medially, long, tufted and erect laterally and becomes more conspicuous just in front of the pollinose margins, because the erect tufts extend farther inward at this point, and this accentuates the golden, annulate appearance of the abdomen. On the last two tergites of the male and the seventh and following tergites of the female the pile is almost wholly bristly and black. Male terminalia polished black with numerous, slender, black bristles on the exaggerated gonopods, which meet together ventrally. The superior forceps have a very deep notch somewhat as in *Heligmoneura* Bigot. Female terminalia extremely short and consist of the ninth and tenth segments only.

Type. Male, allotype female, Silvan, Central Ecuador, 3,400 meters, May 1949, collected by Z. Muller. Also, 5 paratype males and 3 paratype females with the same data. Types and paratypes in the American Museum of Natural History, and paratypes also in the collection of the author.

Genus *Tolmerus* Loew

FIGURES 353, 778, 1474, 1480, 2299, 2340

Tolmerus Loew, Linnaea Entomologica, vol. 4, p. 94, 1849. Type of genus: *Asilus pyragra* Zeller, 1840. Designated by Coquillett, 1910, the fourth of four species.

Rather small asilids, pollinose and short pilose with comparatively short, tapered abdomen, relatively short, facial protuberance and bristles confined to the posterior half of the mesonotum and the notopleuron. Related to *Machimus* Loew, and they are readily separated in the male by the absence of a posterior liplike projection on the eighth sternite. Length 12 to 18 mm.

Head, lateral aspect: The face has a moderately developed gibbosity occupying the lower two-thirds; the upper portion of the face is plane with the eye. The eye is of moderate length, strongly convex anteriorly and plane through the middle posteriorly but strongly recessive anteroventrally on the lower third. The occiput is short but present throughout the entire length of the eye, and more prominent below; the pile is short and scanty in the middle and becomes quite dense, fine and rather long on the lower third. Occiput has in middle 4 or 5 very slender, weak, pale bristles, replaced in the type of genus by 11 exceptionally stout, though rather short bristles on the extreme upper portion of the occiput and which form a partly doubled row at the upper eye corners. The proboscis is short, robust, swollen or expanded only from the dorsal aspect and then only slightly. The apex is quite bluntly rounded, with numerous, stiff hairs above and below; the dorsomedial ridge is low and confined to the middle, the ventral fissure confined to the outer third and there are a few, long, stiff hairs ventrally on the basal two-thirds. Palpus rather short and cylindrical with the bristles mostly confined to the apex and near the apex dorsally and laterally. The antenna is attached just above the middle of the eye and is rather long and slender; the first segment is especially slender and not quite twice as long as the second. The third segment is as long as the first two combined, gently tapered beyond the middle and bears a short, distinct microsegment and a rather thick style not quite as long as the third segment; the style carries an apical spine.

Head, anterior aspect: The face below the antenna is a sixth the head width and nearly double this width below. Subepistomal area comparatively small, oblique, concave and pubescent. The face is micropubescent, with numerous, stiff, bristles over the middle portion of the gibbosity; these begin on the base of the low, arched, dorsal ridge. All the upper bristles are black and the upper central bristles distinctly stouter than the remainder and, indeed, quite stout. The bristles on the lower, medial portions are pale and they are slender; black and pale bristles are continued laterally down the sides of the subepistoma. The front is bare in the middle, micropubescent laterally, and bears 4 slender, bristly hairs laterally and 4 slender, black bristles. Front divergent in the middle, convergent at the apex; the vertex deeply excavated, the ocellarium large, but low, and with 2 pairs of slender bristles across the middle in a circular row, 2 slightly longer bristles between the posterior ocelli and 2 equally long elements behind the ocelli. Anterior eye facets rather strongly enlarged.

Thorax: The thorax is entirely micropubescent, assuming more the character of pollen medially upon the mesonotum. The pile of the mesonotum is moderately abundant and composed of stout, short, slightly appressed bristles. There are no differentiated acrostical elements although near the midline there is on either side a slightly irregular row, narrowly separated, of short bristles merging into similar bristles laterally. Dorsocentral elements are differentiated a short distance before the suture and immediately become very long and stout with 6 or 7 pairs. Humerus with a few, fine, long hairs. The lateral bristles are long and stout and consist of 2 notopleural, 1 postsupraalar, 1 suprapostalar, 1 or 2 postalar and 1 or 2 pairs of scutellar bristles. The scutellum is only moderately thick, convex, with distinctly impressed rim; it is densely pubescent, with numerous, rather fine, long erect hairs; propleuron with abundant, long, fine pile laterally and ventrally; the pronotum has 2 or 3 pairs of rather stout bristles. Upper mesopleuron with a few, fine, long hairs, 2 slender bristles and several long hairs on the dorsal middle portion of the sternopleuron, a few fine hairs anteriorly and 1 or 2 slender, bristly hairs posteriorly on the mesopleuron, 3 or 4 fine hairs on the pteropleuron. There are on the posthypopleuron a quite stout, long bristle and several slender bristles, and on the metapleuron 7 long, stout bristles in a vertical row. The lateral metanotal slopes have numerous, bristly hairs. The lateral metasternum has a few, long hairs, the ventral metasternum is long pilose; postmetacoxal area pubescent but membranous; tegula without setae; posterior basalare with 1 or 2 minute hairs; squama with a multiple fringe.

Legs: All the femora are stout, the anterior and middle pairs thickened basally, especially on the forelegs. The dorsal and lateral pile is flat appressed and setate. On the hind femur the bristles consist of 3 lateral and 2 dorsolateral on the apical third, 6 ventrolateral, 1 ventromedial beyond the middle and 3 or 4 ventral on the basal half; the trochanters have a stout, medial bristle and 1 to 3 ventral elements; the posterior coxa has 2 lateral bristles and 3 weak, anteroventral bristles. The hind tibia has 1 dorsomedial just before the middle, 3 dorsolateral, 1 at the base, the middle, and the outer fourth and 2 ventrolateral bristles, on the outer half; a brush of setae is present only near the apex. The middle femur bears 2 quite stout, long anterior bristles at basal and distal third and 6 long, slender, pale bristly hairs ventrally. The middle tibia has 3 dorsal bristles beginning near the middle, 2 anterodorsal on the outer half, 3 posterior, 1 or 2 posteroventral, and 2 anteroventral bristles. Anterior femur bears 4 rather prominent bristles dorsally on the outer half and 7 long, slender, bristly hairs ventrally towards the base; anterior tibia slightly bent outward in the middle with 1 dorsal at the base, 3 posterodorsal on the outer half, 3 quite long, basally stout, posteroventral bristles, beginning just before the middle. The anterior basitarsus is a little longer than the next 2 segments. All tarsi end in long, sharp, pointed claws, strongly bent at the apex; large, spatulate pulvilli; the empodium is long and distinctly bladelike.

Wings: The marginal cell closed, the subcostal cell comparatively narrow, the wing not expanded anteriorly but gently rippled; the anterior branch of the third vein ends a short distance before the wing apex, the posterior branch ends an equally short distance behind; the second submarginal cell is slightly narrowed beyond the middle. The first posterior cell is somewhat narrowed, opposite the basal portion of the second submarginal cell; the second posterior cell widely open, only slightly swollen at the base anteriorly. Fourth posterior cell closed and stalked and gently convex on all sides; the lower end vein of the discal cell is pulled strongly back towards the base of the wing; the second basal cell ends in two veins; alula large, the ambient vein complete; the wing is avillose in the first two basal cells and the base of the discal cell and the anterobasal portion of the first posterior cell.

Abdomen: The abdomen is slightly tapered and more or less subcylindrical. Sides of the first tergite only moderately protuberant. The pile of the abdomen is scanty, appressed and setate; the first two tergites have 2 or 3 stout bristles, the lateral postmargins of the second and third tergites bear 4 rather strong bristles, the remaining tergites have somewhat weaker bristles in the male but sometimes with stout bristles. On the second to the fifth tergites in the female the bristles are sometimes reduced to 1 or 2 on each side or sometimes with only very weak bristles present on all except the first tergite. First sternite without pile; remaining sternites with fine, long hairs which may be replaced in some cases on the last 4 sternites by short, appressed setae. Seven tergites present dorsally in the male, the seventh is an eighth the length of the sixth dorsally but more than a third as long laterally, and laterally there is a minute, liplike trace of the eighth tergite. The eighth sternite is extremely short but without any posterior, liplike extension. Female with seven tergites, the seventh about as long as the sixth. The male terminalia is moderately large and not rotate. The superior forceps apt to be elongate, apically pointed, directed upward and slightly curved inward apically. The female terminalia is 1½ to 2 times as long as the seventh tergite and strongly compressed laterally, without spines or bristles.

Distribution: Nearctic: *Tolmerus annulipes* Macquart (1838); *antimachus* Walker (1849); *callidus* Williston (1893); *delusus* Tucker (1907); *johnsoni* Hine (1909); *maneei* Hine (1909); *mesae* Tucker (1907); *notatus* Wiedemann (1828) [=*alethes* Walker (1849)]; *novae-scotiae* Macquart (1847); *paropus* Walker (1849) [=*prospectus* Tucker (1907)]; *prairiensis* Tucker (1907); *sadyates* Walker (1849) [=*tibialis* Macquart (1834)]; *snowii* Hine (1909) [=*annulatus* Williston (1893)].

Neotropical: *Tolmerus alterus* Williston (1901).

Palaearctic: *Tolmerus albiceps* Becker (1923); *aurimystax* Bromley (1928); *corsicus* Schiner (1867) [=*vermicularis* Pandellé (1905)]; *cyrnaeus* Oldroyd (1946); *diagonalis* Pandellé (1905); *eximius* Becker (1923); *facialis* Becker (1913); *ferox* Becker (1923); *flavibarbatus* Becker (1914); *illucens* Becker (1923); *impiger* Becker (1923); *incommunis* Becker (1923); *lesinensis* Palm (1876); *novarensis* Schiner (1868); *paganus* Becker (1923); *pauper* Becker (1923); *perfectus* Becker (1923); *planifacies* Becker (1923); *poecilogaster* Loew (1849); *pyragra* Zeller (1840); *senex* Wiedemann in Meigen (1820); *tessellatus* Loew (1849); *trifissilis* Séguy (1929); *ventriculus* Becker (1923).

Ethiopian: *Tolmerus comans* Oldroyd (1940); *gymnus* Oldroyd (1939); *hirsutus* Ricardo (1922); *juxta* Oldroyd (1939); *nigripes* Ricardo (1922); *pammelas* Speiser (1910); *rubripes* Ricardo (1922).

Oriental: *Tolmerus agilis* Wiedemann (1828); *angularis* Ricardo (1922); *asiaticus* Becker (1925); *bataviensis* de Meijere (1914); *impeditus* Becker (1925); *incisularis* Bromley (1935); *nicobarensis* Schiner (1868); *parvus* Ricardo (1922); *punjabensis* Bromley (1935).

Malloch (1917) discusses immature stages of *Tolmerus notatus*, an American species.

Genus *Epitriptus* Loew

FIGURES 368, 736, 1526, 1535, 2307, 2318, 2391, 2394

Epitriptus Loew, Linnaea Entomologica, vol. 4, p. 108, 1849. Type of genus: *Asilus cingulatus* Fabricius, 1781. Designated by Coquillett, 1910. The first of 6 species.

Epitreptus Walker, List, . . . dipterous insects . . . British Museum, suppl. 3, p. 676, 1855, *lapsus*.

Small, dark flies often yellowish grey pollinose; the legs may be marked with yellow or red. Closely related to *Machimus* Loew, of which it is perhaps only a subgenus, containing about 21 species. Species of *Epitriptus* have strong, bristly hairs on the sternites; the tergites have postmarginal bristles. The male terminalia are small, moderately long and apposed; there is no ventral process from the eighth sternite. Female ovipositor compressed with free proctiger. Only the lower half of the face is protuberant. Length 10 to 14 mm.

Head, lateral aspect: The face is moderately developed and gibbous on the lower three-fourths and nearly plane with the eye on the upper fourth. Eye of moderate length, strongly convex anteriorly and distinctly recessive below. The occiput is of moderate thickness throughout, the pile long, fine, curled and abundant on the lower half giving way in the middle to 7 or 8 pairs of slender, pale bristles and on the upper sixth to about 6 pairs of stout, black bristles situated immediately behind the posterior eye corners with an additional stout, black bristle behind the vertex. The proboscis is short and stout, distinctly swollen toward the base both in lateral and dorsal aspect; there are several long, fine hairs ventrally on the basal half and the apex is obtusely rounded; a low dorsal medial ridge is present. Palpus slender, cylindrical, composed of one segment with several, strong, apical bristles and a few additional, exceptionally long, bristly hairs, except medially. The antenna is attached at the upper third of the head and compartively long and slender; the first segment is 1½ times as long as the second. The third segment is nearly as long as the combined length of the first two, and bears a short, distinct microsegment followed by a short, thick style carrying an apical spine. The microsegment is three-fifths as long as the third segment; the first antennal segment bears numerous, bristly hairs laterally, 1 or 2 dorsally and a single, quite stout, long, black, ventral, oblique bristle; second segment with only very short setae.

Head, anterior aspect: The head is very little wider than high. The face below the antenna is a fifth the head width and divergent below. The face is micropubescent with 12 strong, long, black bristles which extend along the lateral margins of the gibbosity and extend up to the upper edge of the gibbosity; the lower elements are more slender. Center of face with 8 to 10 pairs of stout, pale bristles; black and pale, slender bristles are continued down along the sides of the subepistoma. Subepistomal area rather large, oblique and nearly plane. The front is pubescent, with 6 pairs of slender, bristles laterally, the sides divergent in the middle, convergent again at the vertex. Vertex strongly excavated, the ocellarium low, with 2 pairs of obliquely placed, moderately strong bristles between the ocelli, 1 pair between the posterior ocelli, and a short bristle behind the ocelli. Central eye facets strongly enlarged.

Legs: The anterior and middle femur distinctly swollen, especially towards the base; hind femur very slightly swollen throughout the middle to near the apex, dorsal pile of this femur dense, appressed and setate, with more scanty, fine, erect pile below and a moderately abundant ventromedial fringe of long, fine hairs. Hind femur with 3 bristles, 1 just beyond the middle, 1 at the apical sixth and 1 weak element subbasally, and an additional element dorsomedially at the apex and 2 dorsomedial bristles near the apex. Hind tibia with 1 stout, dorsal in the middle, 4 dorsolateral, 2 ventrolateral at the middle and outer third; apex with 1 dorsomedial, 1 dorsolateral, 2 lateral, 1 ventrolateral, 3 ventral, and 1 medial; a brush of setae begins near the base. Middle femur with 1 very stout, long, anterior bristle just beyond the middle, 1 weak bristle at the apex anteriorly and posteriorly, 1 stout, long bristle anteroventrally near the middle; middle tibia with 2 dorsal bristles, 2 anterior, 3 posteroventral, and 2 anteroventral. Anterior femur with 1 bristle only, anteriorly at the apex. Anterior tibia with 3 short dorsal, 2 or 3 short basal anterodorsal, and 2 exceptionally long, stout, posteroventral bristles. Basitarsus as long as the next two segments. All tarsi end in sharp, slender claws, long pulvilli and slender, bladelike empodium.

Wings: The marginal cell closed, the subcosta of moderate width; the anterior branch of the third vein is gently sinuous and ends shortly before the wing apex; the posterior branch ends shortly behind the wing apex. The second submarginal cell slightly narrowed at the outer fourth, slightly widened towards the base. First posterior cell and the second both widely open; base of second posterior cell only moderately swollen anteriorly; fourth posterior closed with a long stalk and slightly convex anteriorly and distally; the second basal cell ends in two veins; alula large, ambient vein complete.

Abdomen: The abdomen is not quite as wide as the mesonotum, cylindrical, and but little tapered, except that the last two or three segments of the male are slightly tapered; the sixth segment of the female is slightly tapered, the seventh segment more strongly tapered. The pile of the abdomen is appressed and setate, a little longer laterally on the sides of the first three tergites. First tergite laterally with 4 or 5 pairs of slender, weak bristles along the lateral postmargins. First sternite without pile; remaining sternites with only long, stiff, slender, bristly hairs; the eighth sternite is rather long and transverse apically, with a medial, posterior, obtuse, triangular patch of membrane. There are eight tergites in the male, the seventh is two-thirds as long as the sixth; the eighth is a fourth to a fifth as long as the seventh, slightly longer laterally. Female with seven tergites, the seventh approximately as long as the sixth. Male terminalia not rotate but rather large; the superior forceps long, apposed medially, curved toward the midline and also curved a little downward and pointed apically. The gonopod is half as long as the superior forceps and turned up at the apex. The proctiger lies almost completely between the forceps. The hypandrium is short but present, cavity entirely open below. Female ovipositor comparatively short and very strongly flattened or compressed laterally on the eighth and remaining tergites.

Distribution: Nearctic: *Epitriptus erythocnemius* Hine (1909).

Neotropical: *Epitriptus albisetosus* Wulp (1882); *?albospinosus* Bellardi (1861); *niveibarbus* Bellardi (1861).

Palaearctic: *Epitriptus arthriticus* Zeller (1840); *cingulatus* Fabricius (1781) [=*annulatus* Macquart (1826), *maculosus* Harris (1782), *striatus* Meigen (1820)]; *cowini* Hobby (1946); *elkantarae* Becker (1907); *emarginatus* Loew (1949); *farinosus* Becker in Becker and Stein (1913); *inconstans* Wiedemann in Meigen (1820) [=*culiciformis* Pallas in Wiedemann (1818), *micropyga* Becker in Becker and Stein (1913)]; *major* Becker (1907); *maximus* Schiner (1868); *?micans* Meigen (1820); *mixtus* Becker (1908); *setosulus* Zeller (1840) [=*nanus* Loew (1840), *striatus* Macquart (1826) not Meigen]; *solox* Enderlein (1934); *?striatus* Meigen (1820); *syriacus* Schiner (1867); *tibialis* Villeneuve (1911).

Melin (1923) describes larva and pupa of *Epitriptus cingulatus*.

Dinozabrus, new genus

FIGURES 364, 735, 1529, 1538, 2253, 2259, 2439, 2447

Type of genus: *Dinozabrus bicolor*, new species.

Rather short, robust species with narrow face. The vertex is especially narrow. Face gibbous and abrupt dorsally, the elevation extending over the lower three-fourths and with numerous, long, stout, slender bristles. Length 18 mm.

Head, lateral aspect: The face is strongly gibbous, leaving the upper fourth nearly plane with the eye. The eye is unusually long, extremely convex anteriorly and plane posteriorly through the middle third or less and strongly recessive anteroventrally on more than the lower third. The occiput is moderately thick throughout, more prominent below as a consequence of the eye recession. Pile of occiput rather dense and long ventrally becoming scanty and shorter in the middle and completely replaced by bristles dorsally. The occipital bristles are stout; they begin at the middle of the head, where there are 9 pairs curved downward, followed by 11 dorsal pairs, nearly straight, and stouter. The proboscis is rather short, moderately thick, subcylindrical and at most very slightly swollen on the basal third. The apex is bluntly rounded with a few, fine hairs, a dorsal ridge is absent; the basal half below and also ventrally laterally bears numerous, extremely long, stiff hairs. The proboscis is directed obliquely forward and chiefly downward. The palpus is stout, with stiff, apical bristles and bristly pile ventrally and laterally. The antenna is attached a little above the middle of the head, moderately elongate and rather slender; the first segment is a little longer than the second. The third segment is as long as the first two segments combined, with a rather long, distinct microsegment directed downward and a comparatively short style, as long as the third segment; style distinctly spatulate apically and carrying a spine. First segment of antenna with unusually numerous, long bristles to bristly hairs ventrally and laterally with shorter ones dorsally. Second segment with long setae ventrally and dorsally.

Head, anterior aspect: The face below the antenna is about a fifth the head width and expanded. Subepistomal area rather large, concave, pubescent and oblique. Face micropubescent, apilose but bearing quite numerous, long, moderately stout, curved, black bristles, extended chiefly forward. These arise from the dorsal base of the gibbosity leaving only the sides without them; they continue down along the lateral margin of the subepistoma; the anterior middle elements are a little stouter. Front long, pollinose, with a row of 3 or 4 slender bristles along the eye margin and a double sublateral row of 9 longer, a little stouter bristles. Vertex moderately excavated but narrow with vertical sides, the ocellarium is set anteriorly forward, large but low, with 4 or 5 pairs of long, slender bristles between the ocelli and at least as many equally long bristles behind the ocelli. Anterior eye facets strongly enlarged.

Thorax: The thorax is pollinose; the pile of the mesonotum is scanty but rather long, exceptionally fine and bristly with the acrostical pile and the dorsocentral pile similar; the latter begins to be differentiated behind the humerus; the first 5 elements are no more than hairs, the posterior 7 elements are slender bristles. The long, moderately stout bristles laterally consist of 2 notopleural, 1 supraalar, 2 postalar, 3 pairs of scutellar bristles. Scutellum only a little thickened but convex, with a shallow, impressed rim. Propleuron with fine, abundant, long pile; pronotum with 5 or 6 slender bristles; posterolateral propleuron with numerous, bristly hairs only. Upper mesopleuron with a long fringe of bristly hairs; middle and anterior sternopleuron with some long pile. Pteropleuron with a rather large patch of long pile and bristly hairs. Posthypopleuron with 3 long, slender bristles and 4 equally long hairs in a vertical row. Metapleuron with a vertical row of 7 long, slender bristles and other bristly pile. Lateral slopes of the metanotum with a conspicuous patch of bristly pile. Sides of the metasternum and the ventral metasternum with long, fine pile; postmetacoxal area membranous; tegula without setae; the posterior basalare with 5 or 6 bristly hairs ventrally; anterior basalare pubescent only; squama with a multiple fringe.

Legs: The legs are comparatively slender; femora at most moderately stout; the anterior femur is a little thickened dorsally and with rather scanty, fine, appressed pile dorsally, laterally, and anteriorly. On the hind femur there are 4 lateral bristles with a dorsolateral at the outer sixth, another at the apex, with a similar dorsomedial, also with 5 ventrolateral, 4 long, slender ventral and almost no ventral pile; the medial pile is short and comparatively scanty. Hind tibia with 1 long, stout dorsomedial in the middle and 3 dorsolateral, 1 near the base, and 2 ventral bristles; apex with 3 ventral, 2 lateral, and 1 dorsolateral bristle. Middle femur with 6 anteroventral bristles, 1 stout anterior bristle just beyond the middle, 1 weak apical anterior, and 2 apical posterodorsal bristles; middle tibia with 2 anterodorsal bristles, 2 posterodorsal bristles and 2 rather long, stout posteroventral, 2 anteroventral bristles found on the outer half. Anterior femur with 1 dorsal row of 5 slender bristles and 3 or 4 additional, basal, bristly hairs, besides a ventral fringe of long, fine pile in scanty quantity. This tibia bears extremely weak dorsal bristles but the posteroventral bristles are long and strong; there is 1 basal anteroventral which may be doubled, and there are 6 or 7 short, posterodorsal, 4 posteroventral bristles. Tarsi end in slender, sharp claws, curved abruptly at the apex, long pulvilli and slender empodium, which is a little flattened.

Wings: The marginal cell closed with a very short stalk; the subcostal cell is quite narrow at the expense of the marginal cell; the costa not expanded. Marginal and submarginal cells rippled; the anterior branch of the third vein ends a short distance above the wing apex; the posterior branch ends a little greater distance behind; second submarginal cell arises at the end of the discal cell. Second posterior cell rather strongly widened at the base; the lower vein at the end of the discal cell is quite long and drawn back towards the base. Fourth posterior cell closed with a short stalk; anal cell closed shortly, second basal cell ends in 2 veins, alula large, the ambient vein complete.

Abdomen: In the male the abdomen is cylindrical, in the female it is rather flattened on the first four or five tergites and in both comparatively robust, but not quite as wide as the mesonotum. Sides of the first tergite moderately protuberant. Pile of abdomen scanty, fine, setate and appressed but the lateral margins of the first three tergites bear a little, long, fine pile and all of the sternites except the first have quite long, fine pile in both sexes. Sides of the first tergite with 6 or 7 weak, slender bristles. Posterolateral margins of all the tergites in both sexes with a row of stiff, bristly hairs. Eight tergites in the male, the last three rather short, the eighth half as long as the seventh, of uniform width; the seventh is half as long as the sixth, the sixth about two-thirds as long as the fifth. Female with seven tergites, the eighth and beyond incorporated in the ovipositor. Male terminalia large, wide, the superior forceps massive, curved toward the middle apically and with a short, ventral process. Gonopod equally massive but shorter, curved upward. What appears to be the hypandrium is long, smooth, ventrally flattened and polished in the male. Female with the ovipositor short, strongly compressed laterally; the eighth tergite is barely longer than the seventh. The ninth and tenth segments are comparatively rather long, but the tenth a little shorter, both thrust downward as in *Senoprosopis* Macquart.

Distribution: Ethiopian: *Dinozabrus bicolor*, new species.

Dinozabrus bicolor, new species

Length 18 mm. Male, female. Head: Face and front black with dense, coarse, yellowish pubescence. All the bristles of the face are black; the inner row along the epistomal margin is yellow; pile of the occiput is deep yellow, but the bristles on the dorsal half and on the front and vertex black. Antenna quite black with black bristles.

Thorax: The pleuron and mesonotum black. The mesonotum is dully shining with brownish black pollen over the middle; it has a narrow, inconspicuous, greyish white, medial stripe, a somewhat more conspicuous greyish white stripe from the level of the humerus to the scutellum and the whole scutellar area in an oblique light is also greyish white. Lateral margins above the postalar callosity are greyish white but above the wing, mesopleuron and medial to the humerus the pollen is pale, brownish yellow. Pleuron densely brownish yellow, with minute pubescence or rather pollen. All of the pleuron, except the posterior border of the mesopleuron and its anterior border and narrow, dorsal margin are more or less shining and bare. Pile and bristles of the mesonotum are black, of the pleuron yellow, except that the entire pronotal pile and bristles are black. There are 2 black hairs among the yellow pile on the pteropleuron and 3 black bristles on the metapleuron among the yellow bristles. Metanotal bristles and pile black.

Legs: The legs are everywhere quite black. The bristles of all of the tibiae and tarsi black and bristles of all of the femora black with the exception that the medial and ventrolateral bristles on the basal half on the hind femur are reddish yellow; on the distal half of the hind femur these surfaces have black bristles. Also on the ventral surface of the anterior and middle femora the bristles are yellow. Dorsal pile of the middle and hind femora very fine, appressed and yellow on the basal half; the dense setae brush of the anterior tibia which extends only into the basitarsal segment is reddish brown; this brush of setae is present also on the hind tibia, its basitarsus, and its second tarsal segment.

Wings: The wings are dilutely brownish hyaline on all the basal, discal and the fourth posterior cells and also on the base of the remaining marginal cells. There are dark, reddish villi over nearly the whole of the marginal cell, anterior half of the submarginal cell, whole outer part of the submarginal cell, and nearly the whole of the second submarginal and first 3 posterior cells.

Abdomen: The abdomen is black, with greyish white pollen on the first two tergites. The posterior margins of the second to the seventh tergites have rather wide pollinose margins, which are rather sharply distinct; this pollen is golden brown and extends conspicuously along the whole lateral portion of the fourth, fifth and sixth tergites, where it is rather bright; the pollen is rather paler on the sides of the third tergite and posteriorly on the second tergite. Sternites with similar pollen; pile of the abdomen reddish yellow, but chiefly black on the hypopygium on which it is yellow only terminally. Pile of the sternites reddish yellow.

Female. Similar to the male in all respects as far as color is concerned.

Type. Male, allotype female, from east side of the edge of the forest of the Aberdare Mts., Kenya, 7,300 ft., February 24, 1911. In the collections of the Zoologische Staatssammlung, Munich.

Cratopoda, new genus

FIGURES 396, 737, 1527, 1536, 2227, 2430, 2454

Type of genus: *Asilus gayi* Macquart, 1838.

Medium size flies with numerous, prominent bristles down the middle of the mesonotum and the entire middle of the prominent face. Anterior and middle femora with 2 rows of stout bristles. Superior forceps with a deep cleft. Related to *Threnia* Schiner. Length 17 mm.

Head, lateral aspect: The face is plane for a short distance immediately below the antenna; the lower five-sixths of the face is prominent and strongly protuberant and gently convex. Eyes slightly recessive anteroventrally, oval anteriorly and nearly straight on the posterior profile across the middle. The occiput is unusually prominent, especially on the upper portion and continues upward to the vertex, the occipital pile is everywhere fine, long and crinkled but is scanty across the middle; it is very abundant dorsomedially and similarly abundant below on the lower fourth. Bristles begin below the middle and are quite stout; there are 9 to 12 pale elements below and near the vertex 2 to 4 blackish bristles; these upper elements are somewhat anteriorly curved. The proboscis is of moderate length, subcylindrical, and slightly swollen above the base; it has a bluntly rounded apex, bearing fine pile; the basal half of the sides and ventral portion bear numerous, long, fine hairs. Palpus of one segment with long, stout, apical bristles and stiff, ventral pile. The antenna is attached to the upper third of the head; the second segment is two-thirds as long as the first, the third segment, style excluded, is as long as the first two combined. The third segment is attenuate below on the outer third and bears a short, distinct microsegment, followed by a relatively short, stout, style. The style is three-fourths as long as the third segment and bears a minute spine apically. The first segment has 6 to 8 long, stiff, black hairs ventrally, some long pile laterally and bears on the apical half below 2 very long, very stout, black bristles which are longer than the first two segments of the antenna combined; second segment with only a few, short setae above and below.

Head, anterior aspect: The head is only a little wider than high; the face below the antenna is about a fourth the head width and divergent below. Subepistomal area rather small and narrow and concave, filled by the palpus; its sides bear stout bristles. The face cover is pubescence without pile, but with a wide band of bristles throughout the middle of the entire protuberance and which begin just below the antenna; these bristles are long, anteriorly directed, curved, slender, and black; near the middle of the face these give way medially to stouter, long, pale bristles. The lower, anterior, epistomal margin bears a cluster of similar, stout, pale bristles which are continued on down the lateral margins as an irregular row, with slender black bristles intermixed. The front is slightly divergent above, the vertex slightly convergent. The front laterally bears more than 20 quite long, slender, black hairs. Vertex only moderately excavated with slanting sides. Ocellar protuberance moderate with vertical sides and bearing 8 pairs of long, slender divergent hairs. Eye facets moderately enlarged centrally.

Thorax: The thorax is pollinose including the pleuron; the mesonotal pile is long, fine, nearly erect and microtuberculate; some of these stiff hairs are longer and stouter than others. The acrostical elements are especially prominent and include a double, multiple row of stiff hairs and some moderately stout bristles anteriorly. The dorsocentral elements begin to form long, stout bristles somewhat anterior to the notopleuron and continue as a triple row irregularly until close to the scutellum, in which area they are especially long and stout. Humerus pilose only. Stout, long, pale, lateral bristles are present and consist of 3 notopleural, 4 postsupraalar, 1 suprapostalar, 4 postalar, and 1 pair of widely separated scutellar bristles. The postalar bristles are extremely long and their length fully equals the height of the mesonotum. Scutellum thick, convex, pubescent with deeply impressed, subapical crease; the lateral third on each side bears a dense tuft of long, delicate, fine, erect, pale pile. Propleuron with moderately abundant, long, fine pile on all parts; pronotum also with 4 or 5 pairs of stout, pale bristles. Upper anterior and posterior mesopleuron, upper sternopleuron, the pteropleuron, the posterior hypopleuron each with 8 to 12 long, fine hairs. The hypopleuron lacks a differentiated patch of pubescence. Metapleuron pilose anteriorly and with 9 to 15 very long, stout, pale bristles. Metanotal slopes bullose and densely long pilose; lateral and ventral metasternum with abundant, long pile. Postmetacoxal area membranous; tegula and basalare pubescent only; squama with a multiple fringe of long, crinkled pile.

Legs: The hind femur is stout but not especially thickened; anterior and middle femora slightly thickened along the middle and base; all pile pale on femora, black on tibiae; bristles of hind legs pale, the anterior bristles of middle femur, their posterior bristles, the posterior bristles of anterior femora and their posterior tibial bristles pale, others black. The posterior femur bears 3 medial, apical bristles, a pair of dorsomedial bristles back from the apex, 7 lateral which are rather long, 8 ventrolateral bristles, and 11 ventral bristles. The hind tibia bears 2 dorsal bristles quite close to the base, 3 lateral bristles, 2 ventral bristles beyond the middle; apex with 1 dorsal, 2 lateral, 3 or 4 ventral, and 2 medial bristles. The medial surface bears a brush of appressed setae extending nearly to the base and continued on to the first two tarsal segments. Middle femur with 5 long, anterodorsal, 7 or 8 shorter, anterior bristles, 7 short posterior, and 12 ventral bristles. The middle tibia bears 5 or 6 dorsal, 2 long anterior from the middle, 3 or 4 posterior, and 2 slender ventral elements in the middle; apex with 2 dorsal, 2 anterior, 2 posterior, and 4 ventral bristles. The anterior femur has fine, stout, short anterior bristles, 3 long posterior bristles beginning at the middle, and 9 long, stout ventral elements ending near the middle; this tibia bears a double row of dorsal bristles containing 11 elements and 5 long, stout posterior and 2 equally long, stout, posteroventral bristles; apex with 2 dorsal, 5 ventral, 2 posterior. Tarsi end with long, thin, double-ribbed pulvilli, and stout, long empodium; the claws are sharp.

Wings: The wings are subhyaline; the costal cell is not expanded but the marginal cell is closed and rather strongly rippled especially in the male. The anterior branch of the third vein ends before the wing apex and begins a short distance from the discal cell. Fourth posterior cell closed with a long stalk; second basal cell ends with two veins; anal cell closed, alula large; ambient vein complete.

Abdomen: The abdomen is cylindroid and strongly tapered in the female, less so in the male; abdomen as long as wings; the first tergite is moderately swollen and convex laterally. Pile of abdomen fine, setate, scanty and appressed but long on the sides of the first tergite. The sternal pile is fine, long and scanty; the first sternite has only a few, minute hairs, very delicate and short. Bristles are present laterally on the tergites, scarcely reduced in strength or numbers posteriorly. There are 10 pairs laterally on the first tergite and slightly shorter ones are continued over its whole posterior margin; the submargin of the second tergite posteriorly bears 5 or 6 pairs and its lateral middle has 4 bristles. Base and middle laterally of third tergite with 5 bristles, its postmargin with 6. The sixth tergite has 6 postmarginal bristles, none basally. These bristles are similarly developed in the female. Seven tergites present in the male, the seventh only a third as long as the sixth and the eighth narrowly visible laterally. Seven tergites in the female; the eighth is rather long, but forms a saddle over the ovipositor, its character otherwise like the remaining tergites. Male terminalia large, conspicuous, clubbed and obtuse, not rotate; the internal parts are exposed below. Superior forceps deeply cleft laterally. Female terminalia short, obtuse, as wide dorsally as laterally; the terminal piece bears only stiff hairs.

Distribution: Neotropical: *Cratopoda gayi* Macquart (1838).

Genus *Threnia* Schiner

FIGURES 311, 777, 1476, 1485, 2220, 2450, 2452, 2502

Threnia Schiner, Verb. zool.-bot. Ges. Wien, vol. 16, p. 674, 1866. Type of genus: *Asilus carbonaria* Wiedemann, 1828, by original designation.

These are small or medium size flies with dark coloration. The head is nearly circular from the anterior aspect and the gibbosity of the face is prominent, abruptly developed and includes at least the ventral half of the face. Facial bristles are long and numerous and the antenna is elongate and slender with a microsegment. The male terminalia large but obtuse and clublike; female terminalia small, short and inconspicuous. The mesonotum has prominent bristles anteriorly but no mane. Lateral tergal bristles are restricted to the first tergite but the remaining tergites bear postmarginal bristles. Length 12 to 20 mm.

Head, lateral aspect: The head is of medium length, the eye is strongly convex anteriorly. The face is strongly gibbose on the lower half, or sometimes a little more than the lower half with the upper portion of face plane with the eye. The occiput is only moderately developed and bears long, fine pile below; slender bristles begin at the middle of the head and become quite stout and conspicuous behind each upper eye corner. The proboscis is slender, extending a little beyond the face; the apex bears a few slender hairs, is distinctly narrow and back from the apex there is a groovelike constriction. The basal half of the ventral surface bears a number of long, bristly hairs. Palpus slender, cylindrical with numerous, long, slender bristles. The antenna is attached at the upper third of the head and is slender. The first segment is nearly three times as long as wide and longer than the second segment; they both bear long setae above and several moderately long, stiff bristles below. Third segment slender, narrowed only near the apex, and approximately as long as the combined length of the first two segments; it bears a small, short, distinct microsegment and a stout, rather short style with bristly apex. This microsegment and style are approximately as long as the third segment and this segment bears 1 or 2 dorsal setae.

Head, anterior aspect: The head is comparatively narrow and not greatly wider than high. The face below the antenna is narrow and is from a seventh to an eighth the head width and strongly widened below. Face cover consists of dense, appressed micropubescence, the whole gibbosity bears long, slender bristles restricted to the medial portion but extended down the sides of the large, concave subepistoma. The outer bristles tend to be black and there are often some whitish bristles in the middle. Front distinctly widened but the vertex narrowed. Front pollinose with long, fine, bristly hairs laterally. The vertex is moderately excavated, the ocellarium has steep sides and 2 or 3 slender bristles between the ocelli, and 1 or 2 pairs behind the ocelli.

Thorax: The mesonotum is moderately high, abrupt anteriorly and strongly sloping posteriorly. It is almost bare with a patch of scattered, bristly hairs medial to each humerus and a few behind. There is present a well differentiated double row of slender acrostical bristles. Dorsocentral bristles begin in the middle of the mesonotum and may show as many as 7 very long elements in each row. Lateral bristles long and sharp. There are 2 notopleural bristles, 2 supra-alar, 3 on the postalar callosity and 2 or 3 pairs on the margin of the scutellum. The scutellum is convex, pollinose with impressed rim and a few, fine, long hairs on the disc. Lateral callosity of the metanotum with bristles and pile. Humerus with bristly hairs. Pronotum with weak bristles; upper margin of the mesopleuron with a fringe of long, slender, bristly hairs. Postmesopleuron and upper sternopleuron with a little stiff pile. Upper pteropleuron with 6 or 7 long, quite slender bristles and a few bristly hairs. The metapleuron has a conspicuous, vertical row of 8 to 10 rather stout, quite long bristles with 2 or 3 additional elements and other long hairs continued on the hypopleuron. Posterior coxa without conspicuous bristles. Postmetacoxal area membranous; lateral and ventral metasternum with pile; prosternum fully dissociated.

Legs: The hind legs are slightly elongate, the anterior and middle femora are more stout, especially toward the base. The hind femur is comparatively slender. The anterior surface of the first 4 femora and the dorsal, lateral and ventral surfaces of the hind femur with scattered, fine, appressed setae. There are some conspicuous bristles on the femur, more on the tibia. Hind femur with 5 ventrolateral bristles on the basal half, 2 or 3 weak bristles along the middle laterally, 3 striking, long, stout, attenuate bristles ventrally on the basal half with about 3 other somewhat less conspicuous ventral bristles. On the apical fifth dorsolaterally is a long, very stout bristle and another beside it more dorsal in position, and beyond dorsomedially is a slender bristle, with 2 small bristles on each side at the apex. Hind tibia with 2 exceptionally long, conspicuous bristles on the basal half dorsolaterally, 5 long and 5 short bristles dorsomedially and 3 moderately long, anteroventral bristles. At the apex are 2 lateral, 2 ventral, and 1 dorsal bristle. Middle femur with a long, conspicuous bristle anteriorly on the outer third, a weaker bristle at the basal third and 5 or 6 posteroventral and posteromedial bristles chiefly on the basal half. Middle tibia with at the middle a stout, long, anterior bristle, another distally, 2 quite long dorsal bristles along the middle, a weaker bristle before and after, and with 1 conspicuous posterior bristle on the basal third, 2 weak bristles beyond. The anterior femur has slender bristly hairs anterodorsally and posterodorsally. The anterior tibia has 3 weak, basal anterodorsal bristles, 9 posterodorsal, 5 of which are strong and 4 very long, conspicuous, posteroventral bristles. Claws sharp, slender; the pulvillus well developed; the empodium bladelike.

Wings: The wings are subhyaline and rendered darker by dense villi on the apical third, the anterior and posterior margins. Marginal cell closed with a long stalk, the anterior and posterior branches of the third vein end an equal distance above and below the wing apex. The second submarginal cell is rather wide basally but widened entirely in front of the third vein. The second posterior cell is much wider than the end of the discal cell, the medial crossvein quite long, paralleling the wing margin, the upper portion of the anterior intercalary vein short. Posterior crossvein wanting. Alula well developed; ambient vein complete. Stalk of the closed, fourth posterior cell is long.

Abdomen: The abdomen is moderately stout and comparatively short but not as wide as the mesonotum. The abdomen bears scanty, coarse, erect hairs and some more or less appressed setae. Lateral margins of the tergites anteriorly with scanty, erect hairs and with bristly, appressed hairs posteriorly. Sides of first segment with 5 long bristles and 3 shorter bristles extending inward. The not pilose, posterior margins of the tergites are unusually extensive in the males and bear anteriorly some rather conspicuous, mostly slender bristles, weaker in females but stouter laterally in males on the fourth and fifth segments. Sternites with scattered, long, slender, bristly hairs, the posterior margins of the last two sternites with numerous, rather conspicuous, though slender bristles. Males with eight tergites, the eighth is quite linear in the middle but more extensive laterally, the sixth and seventh are also reduced in length in the middle. Females with eight tergites, the seventh and eighth bearing conspicuous, posterior bristles. Male terminalia quite large and conspicuous with the widely separated, superior forceps, which are convex and curve medially inward apically; these forceps tend to bear a subbasal process which carries a dense fringe of stout bristles and with a fringe of weaker bristles medially beyond. The hypandrium is rather long, wide and conspicuous; the gonopod is also conspicuous; the aedeagus is prominent and tubular. Female terminalia consist of a very short ninth segment, which at the base is about half as wide as the eighth segment. It is gently convex dorsally and beyond it bears the smaller, medially divided, subtriangular tenth segment. Eighth sternite with a dense patch of long, conspicuous bristles over its whole surface.

Distribution: Neotropical: *Threnia carbonaria* Wiedemann (1828); *kelleri* Carrera (1952); *longipennis* Schiner (1868); *lugens* Schiner (1868); *rabelloi* Carrera (1952).

Oriental: *Threnia acanthura* Wulp (1898); *microtelus* Wulp (1898).

The oriental species described by Wulp probably belong elsewhere.

Genus *Acanthopleura* Engel

FIGURES 361, 776, 1496, 1505, 2188, 2275, 2338, 2375

Acanthopleura Engel, in Lindner, Die Fliegen der palaearktischen Region, vol. 4, pt. 24, Asilidae, p. 67, 1927. Type of genus: *Asilus brunnipes* Fabricius, 1794, by original designation.

Large flies characterized by the gibbous face, which bears numerous, stout bristles that extend as far as the upper third of the face. The mesonotum has minute, scanty, short setae but also a conspicuous, short row of sharply delimited, long, stout, dorsocentral bristles opposite the postalar area containing 5 or 6 elements. The name is derived from the presence of a few bristles along the dorsal margin of the mesopleuron. Other pleural areas with bristles are the hypopleuron, which bears a vertical row of 3 or 4 long, stout bristles; also the notopleuron has numerous bristles and the metanotal callosity bears abundant, stiff, bristly pile. Humerus without bristles. Length 30 mm.

Head, lateral aspect: The face is moderately protuberant on the lower two-thirds, arising shallowly but abruptly. Cheeks prominent. Eye long, strongly convex anteriorly, nearly plane in the middle portion behind; rounded posterodorsally, it is sharply anteroventrally recessive on the lower fourth and also plane on this portion. Occiput short; pile of occiput unusually dense and long on the ventral half, becoming fine and scanty and reduced to little more than 1 or 2 deep submedial rows on the upper portion of occiput. In addition there is present on the occiput a conspicuous row of dorsal, submarginal bristles, all rather short; the upper group contains 12 stout, straight elements and they are confined to the upper fourth of the head; there are approximately 12 other weaker bristles beginning where the upper group ends and these are curved downward. Proboscis moderately long, subcylindrical and gently swollen toward the base both laterally and dorsally; it has a long, low, medial ridge. The apex is bluntly rounded and bears a few, fine hairs apically and especially ventrally; base of proboscis below with numerous, long, slender hairs. Palpus of one long, slender, cylindrical segment; it becomes a little more robust distally and bears numerous stout, apical bristles.

Head, anterior aspect: The face below antenna is a little more than a fifth the head width and divergent below. The subepistomal area is large, nearly plane, pubescent, oblique and encroaching on the face. The face is pubescent, the gibbous portion containing a large number of stout, slightly curved bristles which extend obliquely forward and downward; the more upper elements are nearly straight forward. Sides of the oral margin with similar bristles; face without pile. The antenna is attached at the upper third of the head; the first segment a little longer than the second and all of the segments rather slender. The third segment is as long as the first 2 combined, its style excepted; this segment bears a small, short but distinct microsegment and beyond it a rather thick, short, basally thickened and apically, slightly thickened style with minute, apical spine. The style itself is thickened at apex; and style and microsegment together are three-fourths as long as the third segment. The first segment bears numerous, short, stiff, bristly hairs dorsally and laterally and below, all subappressed and with 1 much longer, ventral bristle. Second segment with only a few short, bristly hairs above and below. The front is pollinose with short, stiff pile along the eye margins; the sides of the front are distinctly divergent in the middle, convergent again at the vertex; the vertex is deeply excavated, the ocellarium low, containing in the middle 3 or 4 fine, short hairs and an additional pair behind the ocelli. Postocellar area with deep, sublateral, grooves. Anterior facets slightly enlarged.

Thorax: The thorax is densely pollinose; the pile of the mesonotum is composed of comparatively numerous, minute, very short, nearly erect setae. Acrostical and dorsocentral elements are nowhere differentiated, except opposite the postalar, where there are about 6 sharply delimited, very long, stout, dorsocentral bristles in each of 2 rows. Humerus with minute setae. Stout lateral bristles are present as follows: 1 posthumeral, 2 notopleural, 1 supraalar in the middle of this region and 2 suprapostalar, 3 or 4 postalar and 2 pairs of scutellar bristles. The scutellum is thick, convex, pollinose, with impressed rim, the basal crease shallow but deeper laterally. Propleuron with tufts of dense, long, quite fine pile on all parts; pronotum with 4 or 5 pairs of slender bristles; anterior and posterior sternopleuron, the posterior mesopleuron with some scanty, fine pile; pteropleuron with 1 or 2 bristly hairs and 1 or 2 distinct bristles. Hypopleuron posteriorly with a prominent, vertical row of 3 or 4 stout bristles; metapleuron with a vertical row of 6 or 7 stout bristles and additional, fine pile. Metanotal slopes densely covered with stiff, bristly pile; lateral and ventral metasternum long pilose; postmetacoxal area membranous; posterior basalare has a few, fine, bristly hairs. Squama with a multiple fringe. Prosternum fused anterolaterally.

Legs: The femora are stout; the anterior femur and to a lesser extent the middle femur are a little swollen basally. The pile is short and abundant, appressed and setate, on the hind femur and tibia and dorsally on the other femora and tibiae. The hind femur has stout, long bristles which consist of 1 dorsomedial at the apical sixth; 5 dorsolateral; 8 or 9 ventrolateral; and 2 or 3 ventromedial bristles near the base. Hind tibia with 1 dorsomedial just before the middle, 3 dorsolateral, 3 ventrolateral, and the ventral surface with a fine, short brush of setae beginning at the middle. Middle femur with 1 dorsal at the base, 3 anterior, 6 anteroventral and 2 posteroapical; middle tibia with 2 anterodorsal, both distal, 3 posterodorsal, 4 posterior, 3 posteroventral and 3 anteroventral. Anterior femur with 4 stout dorsal, 1 anteroapical and a posterior counterpart; its tibia has 5 short dorsal, 2 anterodorsal at the base, 1 posterior and 3 long, posteroventral bristles including 1 at the apex. Anterior basitarsus stout, not quite as long as the next 2 segments; claws sharp, unusually strongly curved from the base; pulvilli well developed; empodium slender, only slightly bladelike and not noticeably swollen at the base.

Wings: The marginal cell closed; the anterior branch of the third vein ends shortly above the wing apex, the posterior branch an equal distance behind; the second submarginal cell is slightly and gently swollen posteriorly on the basal half. The first posterior cell is widely open, the second posterior cell strongly, abruptly and obliquely swollen at the base.

Abdomen: At the base the abdomen is nearly as wide as the mesonotum; it is rather strongly tapered in the male and especially in the female. In the male eight tergites are present, the eighth quite short, a fifth as long as the sixth, the seventh segment less than half as long as the sixth. Female with seven tergites, all of them pollinose; the seventh tergite is long, the eighth incorporated in the ovipositor and the ovipositor very strongly compressed laterally with the seventh tergite also compressed laterally. Ovipositor high basally; including both segments it is twice as long as the seventh tergite. Male terminalia not rotate, and conspicuous. The superior forceps are long, stout, blunt apically, directed obliquely upward; hypandrium is unusually well developed. Gonopod short, triangular, not enclosing the prominent aedeagal sheath. Aedeagus with three prongs; genital cavity open; proctiger long and protruded but oblique.

Distribution: Palaearctic: *Acanthopleura brunnipes* Fabricius (1794) [=*goliath* Schiner (1867), *castanipes* Meigen (1820)]; *goedli* Loew (1854); *longimanus* Loew (1849) [=?*naxius* Macquart (1839)]; *ravus* Loew (1871).

Poulton (1914) discusses the habits of *Acanthopleura brunnipes*.

Genus *Antipalus* Loew

FIGURES 355, 790, 1511, 1520, 2369, 2372

Antipalus Loew, Linnaea Entomologica, vol. 4, p. 136, 1849.
Type of genus: *Asilus varipes* Meigen, 1820, by monotypy.

Flies related to *Asilus* Linné. The face has a large, high, ventral, prominent, gently rising gibbosity, quite abrupt above which bears numerous, fine, long, stiff hairs and weak bristles. Pile of thorax and mesonotum is short and scanty but bristles numerous. The abdomen is rather stout but cylindrical, tapered and elongate; tergites with bristles. The female terminalia consists only of the short, obtuse ninth and tenth segments. Length 25 mm.

Head, lateral aspect: The head is unusually long and prominent on account of the length of the face. The face is slightly produced on the upper third but has a strong, conspicuous, anterior gibbosity which does not arise abruptly. The eye is unusually long, very convex anteriorly, gently convex behind and moderately recessed below. The occiput is thick and prominent and extends to the vertex; its pile is long, fine and abundant even dorsally but especialy dense and matted below. Bristles begin below the middle with 8 to 10 weak elements present and with 5 or 6 unusually stout pairs of dorsal bristles with slight anterior curl. The proboscis is of moderate length, unusually stout, blunt at apex, a little swollen basally; the apex has long, stiff hairs; the base below bears numerous, long, coarse hairs. Palpus of one segment, densely long pilose. The antenna is attached at the upper third of the head. The first segment is a little longer than the second, the second dilated apically. Third segment distinctly elongate, as long or longer than first two segments, narrowed at apex, with distinct microsegment and style no longer than the segment. First segment with eight or more stiff setae above, a like number laterally and with 10 or more longer, oblique, bristly hairs below.

Head, anterior aspect: The face below the antenna is barely more than a sixth the head width and divergent below. Subepistomal area moderately large, oblique, plane and pubescent. The face has weak pile laterally and along the epistomal margins and the whole of the gibbous area is covered with numerous, long, slender bristles; those on the upper half are curled and directed forward, the lower elements longer and directed obliquely downward. The front is scarcely widened but the vertex is distinctly narrowed. Sides of front with a dense patch of long, fine, stiff, bristly pile; vertex moderately excavated with steep sides; ocellarium moderately large, bearing 5 to 8 pairs of weak, bristly hairs. Anterior eye facets only slightly enlarged.

Thorax: The thorax is pollinose on the mesonotum, more coarsely on the pleuron. The mesonotal pile is abundant, widespread, short, fine, subappressed and setate. There is a wide, irregular band of acrostical elements scarcely or not at all differentiated from similar lateral pile and dorsocentral elements. Humerus with fine, erect pile and several, slender, bristly hairs. The mesonotum laterally bears long, stout bristles consisting of 1 posthumeral, 3 transverse notopleural, 4 supraalar, and 6 or 7 postalar. On each side is a widely separated row of 7 prescutellar and 2 pairs of scutellar marginal bristles. The scutellum is thickened and convex, the impressed rim pollinose; it bears some fine, scanty, long, erect pile. Propleuron with a dense, fine tuft of pile. The pronotum has 3 or 4 pairs of stout bristles. Upper and posterior mesopleuron and upper sternopleuron with only a few, fine, erect, scattered hairs. Pteropleuron dorsally with a tuft of fine, stiff pile and 2 or more quite long, slender bristles. Posthypopleuron with 2 or more long, slender bristles and a patch of pubescence; the metapleuron with 6 rather long, stout bristles below and more numerous, equally long, slender elements above. Metanotal slopes with a considerable patch of stiff pile; lateral metasternum with long pile; postmetacoxal area membranous. Tegula pubescent only; metasternum laterally and below with much pile; squama with multiple fringe. Prosternum fused laterally.

Legs: All the femora are stout but the anterior and middle femora are distinctly thickened toward the base. The hind femur bears dense, short, appressed, setate pile dorsally, laterally and ventrally; medial margin with considerable long, fine, erect pile; the very stout, long bristles consist of 2 medial at apex, with 1 dorsomedial and 1 medial subapical bristle, and 6 dorsolateral, 8 ventrolateral bristles, and a cluster of 8 medial near the base. The tibia bears 5 dorsal, 4 dorsolateral, 3 ventrolateral bristles; apical circlet of 12 spinous bristles. The middle femur has 4 stout bristles posteriorly at apex, 3 to 6 ventral on the basal half and 8 long, stout, anteroventral bristles; middle tibia with 3 or 4 dorsal, 2 weak and 1 long anterior at the apical third, 4 posterior, 2 long posteroventral, and 2 ventral bristles. Anterior femur with 1 stout bristle anteriorly at the apex and 1 ventrobasal cluster of 5 stout bristles. Anterior tibia with 8 short dorsal bristles. Apex with 12 bristles. Basitarsus short and stout, as long as the next two segments together. Tarsi end in large pulvilli and long empodium and stout, only moderately sharp claws more or less curved from the base.

Wings: The wings are subhyaline or tinged with brown; marginal cell closed with a short stalk; the anterior branch of the third vein ends only slightly before the wing apex. First posterior cell and discal cell but little narrowed in the middle. Fourth posterior cell closed and stalked; anal cell closed; second basal cell ends in two veins; alula large, ambient vein complete.

Abdomen: The abdomen is elongate, a little longer than the wings, cylindroid and slightly tapered but distinctly stouter than is usual for members of the Asilinae. First tergite moderately swollen laterally. Pile of abdomen consists of moderately dense, fine, short, appressed setae with some long pile on the first tergite and on the sternites. Bristles present on all the tergites and sternites; first tergite with 6 to 8 pairs. There is a posterior, submarginal fringe on the remaining tergites; the second to fourth tergites have 7 or 8 such bristles and the remaining tergites somewhat fewer bristles. The third and fourth have weak, lateral bristles; the second to sixth sternites each bear rather conspicuous bristles across the center and others posterolaterally. The seventh sternite with 7 stout bristles in each posterior corner. Males with eight tergites, but they become progressively shorter from the second, and the last two are quite short. The female has eight tergites, the eighth nearly as long as the seventh but shining and black and more or less incorporated with the ovipositor. On the male terminalia the superior forceps elongate and robust, extended straight backward, curving to the midline with no dorsal space; the large proctiger lies almost recessed between. Gonopod nearly two-thirds as long as upper forceps, robust at base, tapering to a blunt point, also extended straight backward. Hypandrium moderately well developed; genital cavity open. Aedeagus concealed. Female terminalia remarkably broad, short and obtuse, wider than long, and consisting only of the ninth and tenth segments; these bear ventrolaterally a copious downturned fringe of dense pile.

Distribution: Nearctic: *Antipalus comosus* Hine (1918).

Palaearctic: *Antipalus kruperi* Loew (1871); *truncatus* Loew (1849); *varipes* Meigen (1820).

Oriental: *Antipalus kochi* de Meijere (1913); *pedestris* Becker (1925); *wieneckii* Wulp (1872).

Genus *Heligmoneura* Bigot

FIGURES 333, 791, 1630, 1631, 2262, 2339, 2366, 2378

Heligmoneura Bigot *in* Thomson, Archives entomologiques, vol. 2, p. 356, 1858. Type of genus: *Heligmoneura modesta* Bigot, 1858, by monotypy.

Medium size flies, characterized by the short, weakly produced face, the reduced bristles and the remarkably large, clublike male terminalia, most of which is due to the exaggerated, superior forceps. This latter character is the principal one separating the genus from *Neomochtherus* Osten Sacken and *Cerdistus* Loew, which likewise has a very poorly produced face. It is the similarity of the face which has produced much confusion and caused many authors to place the species of *Neomochtherus* and sometimes other genera indiscriminately into *Heligmoneura.* It has not been generally realized that *Heligmoneura* is closely related to an Oriental complex of genera, namely *Cinadus* Wulp, *Oligoschema* Becker and to a lesser extent *Orophotus* Becker. In *Heligmoneura* the superior forceps are characteristically cleft in a deep and peculiar fashion; the halves are widely separated and in consequence the genital cavity is large and open. The gonopod is quite small and tends to be enclosed by the overly developed forceps. Claspers are present and borne by the gonopod, as well as stiletto-like paralobi borne by the superior forceps. Length 10 to 20 mm.

Head, lateral aspect: The head is of medium length and the face quite short, very slightly produced below; most of the lower face is visible because of the recession of the eye. The occiput is short and the lower fifth of the eye recessive posteroventrally. The occipital pile is very fine, dense and of moderate length; weak bristles begin above the middle and there are 3 or 4 pairs of stout bristles behind each upper eye corner, together with 1 deep, postvertical bristle. The proboscis is slender, extending well beyond the face and pointed at the apex; the palpus is slender and of one segment, with fine, stiff hairs at the apex and below. The antenna is attached at the upper third of the head or just below it and, together with the style, is about as long as the head. The first segment is nearly twice the length of the second. The third segment is a little longer than the second, slender, flattened, without microsegment and with a rather long, slender style which, at the slightly thickened apex, bears a bristle-tip.

Head, anterior aspect: The face below the antenna is narrow, about one-seventh the head width or less; the whole face is finely pubescent, generally without pile or bristles on the upper half and with numerous, long, slender bristles on the ventral half, continued down much of the lateral margin of the deep, concave, oblique, pubescent subepistoma; cheeks short. The front is small, pollinose, flat, with a conspicuous subocular row of 4 bristles and above it an ocular row of 3 bristles. The front is slightly divergent and more strongly convergent at the vertex; the vertex is moderately excavated, the ocellarium low with a pair of bristles or bristly hairs between the posterior ocelli and 2 other pairs behind.

Thorax: The mesonotum is moderately high, pollinose and abrupt both posteriorly and anteriorly though strongly rounded; it has abundant, very fine, nearly erect, bristly pile. There is a double acrostical row of poorly differentiated bristles. There are weak dorsocentral, bristly hairs behind the humerus, longer and slender posteriorly, beginning opposite the transverse suture. Humerus with fine pile. The lateral complement of long, moderately stout, sharp bristles consists of 2 notopleural, 1 supraalar, 1 suprapostalar, 2 postalar and 1 scutellar pair. The convex scutellum, with impressed rim, is pollinose, with about 12 fine, erect hairs. Metanotal callosity bullose, creased behind and with stiff hairs. Pronotum with few bristles. The propleuron, upper mesopleuron, sternopleuron and pteropleuron each have a few, fine, long hairs. Both anterior and posterior basalare with a few, fine, bristly hairs. Posthypopleuron and metapleuron each with 1 or more distinct bristles and some bristly pile. Postmetacoxal area membranous; prosternum fused.

Legs: The legs are rather slender; the first four femora very slightly swollen towards the base, the slightly elongate hind pair barely widened distally and together with the tibiae bear loose, fine, subappressed setae. Bristles are attenuate, only moderately stout and numerous. The hind femur bears 3 lateral, 1 ventrolateral near the apex, 3 or 4 prominent, medial bristles on the outer half, and 4 or 5 ventromedial bristles on the basal half; dorsomedial apex with 1 bristle. The middle femur has 3 prominent, anterior bristles and 2 anteroventral along the middle, besides 1 posterior bristle at the apex. Hind tibia with 3 dorsolateral, 1 or 2 dorsomedial, and 3 ventrolateral bristles; apex with 6 bristles. Hind trochanter and all the coxae laterally with stout bristles. The anterior femur in males has 4 or 5 slender, posteroventral bristles, and a posterodorsal fringe of long, bristly hairs, absent in the female. Females, however, have 3 or 4 stout, ventral bristles on the basal half usually. The middle and anterior tibiae have bristles similar to the hind pair but the posterior and posteroventral bristles are much longer. Basitarsus nearly as long or quite as long as the next three segments; their bristles are accentuated especially posteriorly. Claws slender, sharp, bent at apex; pulvilli and empodium long.

Wings: The marginal cell in the males and females a little widened, but not at the expense of the subcostal cell; at most faintly rippled. The posterior branch of the third vein beyond the fork of the third vein is sinuous. Base of second posterior cell rather abruptly widened, but not twice the width of the discal cell. Fourth posterior and anal cells closed and stalked; alula large; ambient vein complete.

Abdomen: The abdomen is comparatively slender; the first two tergites nearly or quite as wide as the mesonotum. The abdomen is subcylindrical, a little tapered and about as long as the wing. The pile is rather scanty, fine and appressed. All the tergites laterally bear distinct bristles near their posterior margin. The basal sternites have fine pile; the third sternite may have a few, weak bristles. Males with seven tergites and the eighth very short. Females with seven tergites, those beyond forming the ovipositor. Male terminalia has the superior forceps grossly enlarged in various shapes, rather short and clublike; frequently with a deep excision, which leaves terminal prongs. The terminalia are not rotate; the aedeagus is formed in three primary parts. The very short gonopod is concealed within the interior. The hypandrium is very short or entirely absent. Claspers are present and also paralobi. Female terminalia rather slender but nearly cylindrical; the eighth segment is almost as long as or quite as long as the seventh; the ninth segment is very short and free terminal proctiger is comparatively long but with only fine pile.

The genera *Heligmoneura* Bigot and *Neomochtherus* Osten Sacken are easily confused. In both genera the face lacks any true gibbosity, such as seen in moderate extent in *Epitriptus* Loew and in marked extent in *Machimus* Loew. This special type of shortened and reduced face, which drops like a chute, is also found in *Cerdistus* Loew, which, while a source of confusion with respect possibly to *Neomochtherus*, can never confuse determinations with respect to *Heligmoneura*. Kertész (1909) in his catalog combined *Heligmoneura* with the old genus *Mochtherus* Loew, now known as *Neomochtherus* Osten Sacken, and Engel (1927) did likewise.

Actually, *Heligmoneura* is not related to *Neomochtherus* but to a small complex of interesting genera, whose home is in Asia and all of which are distinguished by the large, clublike, complex male terminalia, with deep fissures in the superior forceps. These congeners are *Cinadus* Wulp, with subgenera *Haplonota* Frey, *Chaetogonophora*, new subgenus, *Oligoschema* Becker, and *Orophotus* Becker. I have had the privilege of studying types of Wulp's species and specimens of the type of genus of *Heligmoneura modesta* Bigot from the British Museum (Natural History) as well as the type of *Haplonota elegans* Frey, besides types of other material of *Orophotus* and *Oligoschema*. These genera have been fully characterized here in their respective prefaces. I must point out that a careful review of species is required in many instances before it can be established that all species in these several genera are properly assigned.

Engel (1927) treated *Heligmoneura* briefly, figuring *Heligmoneura modesta* Bigot and placing only three African species in the genus. I have accepted these three species as certainly belonging in this genus; in this same paper Engel refers to other species from the Indomalayan region, Philippines without naming them or indicating that he has seen them. I believe that he has confused, in this last instance, the species of *Cinadus* Wulp, which do, indeed, resemble *Heligmoneura* very closely, but are separable in three particulars. Since I have seen but few of the species assigned in the past to these genera, I have been obliged to leave them provisionally in the genus to which they have been previously assigned. I have indicated those species that I have seen and checked.

It may be stated that *Neomochtherus* is an unrelated Palaearctic genus. North African species placed in *Heligmoneura* probably belong in *Neomochtherus*, or possibly in *Cerdistus* Loew or in *Cinadus* Wulp. *Cinadus* does occur in Africa. About 22 species of *Heligmoneura* from the continent of Africa have been placed in either *Heligmoneura* or *Neomochtherus*. The species from central Africa or South Africa, apart from the 3 true species of *Heligmoneura* which are *Heligmoneura modesta*, *insularis* and *laevis*, almost certainly belong in *Cinadus* Wulp, and in some cases in *Cerdistus* Loew.

Distribution: Palaearctic: *Heligmoneura brevipennis* Séguy (1932).

Ethiopian: *Heligmoneura insularis* Engel (1927); *laevis* Engel (1927); *madagascarensis* Bromley (1942); *medianus* Bromley (1930); *modesta* Bigot (1858); *nuda* Bezzi (1906); *rothkirchi* Speiser (1913).

Oriental: *Heligmoneura debilis* Walker (1856); *flagrans* Walker (1857); *forcipatus* de Meijere (1915); *genitalis* Edwards (1919); *pulcher* Ricardo (1922); *trisignata* Ricardo (1922).

Australian: *Heligmoneura biligatus* Walker (1864); *complens* Walker (1861); *didymoides* Walker (1864); *laevis* Walker (1861); *rufipes* de Meijere (1913).

Genus *Oligoschema* Becker

FIGURES 208, 321, 769, 1544, 1552, 2223, 2232, 2265, 2367, 2380, 2500

Oligoschema Becker, Ent. Mitt., vol. 14, p. 135, 1925. Type of genus: *Oligoschema nuda* Becker, 1925, by monotypy.

Rather large flies, short pilose with the bristles strong but reduced in number. The face is narrow but wider below and rather strongly produced. It begins to rise at the base of the antenna and reaches its maximum elevation at or above the middle of the face but never abruptly. The face is more extensive than in other closely related genera. The metanotal slopes are densely pilose; the tergites bear distinct posterolateral bristles, and the male terminalia is quite large. These flies are distinctly related to *Heligmoneura* Bigot, from which they are separated by the well developed gonopod and hypandrium as well as the more extensive face with bristles and pile reaching nearly or quite to the antenna. They are less closely related to *Cinadus* Wulp. Length 18 to 22 mm.

Head, lateral aspect: The face is strongly produced and comparatively narrow; the lateral portions of the face therefore steep. The facial gibbosity begins to rise immediately beneath the antenna and reaches its maximum elevation at the middle of the face, and never abruptly. Eye strongly convex anteriorly, plane over most of the posterior profile but strongly recessive anteroventrally on the lower eighth. The occiput is thick throughout, obliterated only quite close to the vertex, less prominent ventrally and in the middle. The pile of the occiput is rather abundant but fine and comparatively short; bristles are present only at the upper third of the head where there are 10 pairs of comparatively slender bristles. The proboscis is slender, nearly cylindrical, slightly tapered above and below on the outer fourth, actually slightly narrowed on the subapical fourth; the apex bears several, rather long, bristly hairs on each side. The base ventrally has a number of exceptionally fine, long hairs. Proboscis directed obliquely forward and a little downward. Palpus quite slender and cylindrical; it is rather long and bears very fine pile, except at the apex, where there is a tuft of 7 long, rather stiff, black bristles, 3 of them lateral. The antenna is attached at the upper third of the head and quite slender; the first segment is twice as long as the second; the third segment is slender and not quite as long as the first. It is rather strongly attenuate distally and bears an unusually long, slender style which is fully three times as long as the third segment. There is a very short microsegment, apparently.

Head, anterior aspect: The face below the antenna is a seventh the head width and twice as wide at the epistoma. The subespistomal area is rather large but narrow, V-shaped, deeply concave and pubescent. The face is pubescent, almost without pile but with rather numerous, quite stout bristles on the middle third of the face; this group widens toward the epistoma; 7 or 8 of the dorsal bristles are black, and a little shorter, the middle and ventral bristles are pale and stouter and reach slightly beyond the end of the proboscis; similar, long, pale bristles extend down the sides of the subepistoma. Front comparatively short, bare medially, pollinose laterally, with a row of 6 short, but stout black bristles along the eye margin, an additional row of 4 medial to these anteriorly, and 5 other bristles obliquely in front of each antenna. Vertex only moderately excavated, narrow, the sides vertical; ocellarium moderately large, rather low with a pair of short, black bristles between the ocelli, a pair between the posterior ocelli and 2 pairs of slightly longer bristles behind the ocelli. Anterior eye facets strongly enlarged.

Thorax: The thorax is pollinose. Pile of mesonotum abundant but short and quite bristly and stiff in character. Acrostical and dorsocentral elements are not differentiated. Immediately in front of the scutellum is a transverse band of somewhat longer, slender bristles or bristly pile. Humerus with abundant, bristly pile. Lateral bristles are exceptionally stout and rather long and consist of 2 notopleural preceded by a weak posthumeral, 2 supraalar followed by a strong suprapostalar, 2 postalar, and 1 pair of scutellar bristles. Scutellum thick, convex, with impressed rim, micropubescent or pollinose, with numerous, erect, bristly hairs on the disc, the basal crease deep. Propleuron with rather scanty, short, fine pile; the pronotum is thick, convex, prominent and bears 6 pairs of exceptionally stout, long, black bristles. The dorsal posterolateral pronotum bears abundant, fine, long pile only; mesopleuron with a dorsal band of bristly hairs; anterior and upper posterior sternopleuron with some long pile; pteropleuron with 2 or 3 slender, pale bristles and additional pile; posthypopleuron with at least 3 long, slender bristles and several bristly hairs; metapleuron with a single, vertical row of 6 long, slender, pale bristles and dorsally considerable additional, long, bristly hairs. Lateral slopes of the metanotum with a large tuft of dense, long, bristly pile. The lateral metasternum has abundant, long, bristly pile and the ventral metasternum likewise. Postmetacoxal area membranous; tegula with setae, posterior basalare with 7 or 8 rather long, slender, reddish bristles; anterior basalare with 12 to 14 short to long, black bristles. Male postpronotum with 7 or 8 slender bristly hairs among the fine pile.

Legs: The femora are comparatively slender, especially the hind pair. The hind tibia also slender and as long as the femur; all the basitarsi comparatively long. Dorsal pile of all the femora and the lateral pile of the hind femur abundant, but very fine, setate and subappressed. Ventral surface of all of the femora with almost no pile, though the anterior four have a very few, slender, bristly hairs or weak bristles on their basal half. Medial surface of the hind femur with a rather abundant row of comparatively long, pale bristly hairs, the following complement of bristles present: On the hind femur are 3 lateral bristles along the middle, 1 stout, long, subapical, dorsolateral and 1 submedial counterpart, 1 stout, centrolateral at the outer third, 1 basal ventromedial, another medial at the basal third; hind tibia with a single, well developed dorsomedial bristle just before the middle and 2 or 3 very fine, bristly hairs in the same row, and 3 or 4 stout dorsolateral and 1 ventrolateral at the outer fourth; the ventral surface thickly beset with short, oblique setae. Apex of the hind tibia with 1 dorsolateral, 1 ventrolateral, 1 ventral, and 1 ventromedial bristle. The middle femur has 3 exceptionally stout, long, anterior bristles along the middle, and basally before these is an oblique row of 5 bristly hairs; anterodorsally are 3 exceptionally stout bristles as counterparts of the more anterior ones. Ventrally at the base, are 3 long, slender bristles or bristly hairs. The middle tibia has only short, fine bristly hairs dorsally, but has 3 posteroventral and 2 anteroventral bristles, somewhat stouter on the outer half, and 1 ventral element beyond the middle.

Anterior femur very slightly thickened toward the base with a short, weak, dorsal, subapical bristle; the base ventrally has 3 slender, bristly hairs; anterior tibia with a short, weak anterodorsal bristle, which may be absent, at the base, a similar dorsal at the middle, with 2 longer, slender, posteroventral bristles beyond the middle and 1 stout, anteroventral bristle at the outer fourth; apex with a pair of subdorsal and 6 rather stout ventral bristles. All tarsi end in sharp, slender claws, strongly bent at the apex; long, slender pulvilli; empodium a little thickened on the basal half and two-thirds as long as the claw.

Wings: The wings are comparatively slender. Marginal cell closed with a moderately long stalk, subcostal cell not expanded, the second submarginal cell takes origin near the end of the discal cell, is somewhat dilated near its basal third, constricted on the outer third due to the strongly flared first posterior cell; the first posterior cell distally is three times as wide as its middle width. Second posterior cell strongly arched anterobasally, more than twice as wide as the end of the discal cell; lower end vein of the discal cell very strongly drawn backward and more than three times as long as the upper end vein. Fourth posterior cell closed and stalked, its apex very strongly convex but anteriorly and posteriorly nearly plane. Anal cell closed and stalked; alula large; ambient vein complete.

Abdomen: The abdomen is subcylindroid, slightly flattened in the middles of the first two tergites and the whole abdomen rather strongly tapered distally. Pile of abdomen rather short dorsally, fine and subappressed, becoming longer along the posterior margins and moderately abundant, long and bristly on the sides of the first three tergites. The first tergite is laterally produced and convex laterally with 4 bristles on each side; second tergite with 3 posterolateral bristles, third with 2 or 3 posterolateral elements and with several, slender, lateral bristles extending forward along the sides; these latter are not apparent in the female. Fourth, fifth and sixth tergites posteromarginally on each side with 1 or 2 slender bristles in both sexes. Seven tergites are present dorsally in the male, progressively decreasing in length and with a short, lappetlike lobe of the eighth tergite present on each side laterally, which is only a fourth as long as the seventh tergite. Eighth sternite present, a fifth as long as the seventh sternite.

Male terminalia exceptionally large and clublike, not rotate; the superior forceps with an apical and ventromedial spur; to this spur is attached a wide, closely adjacent, distal, subtriangular flaplike piece, which is very convex distally. Gonopod short but much larger than in *Heligmoneura* Bigot, and free below from enclosure by the forceps. The hypandrium, absent in *Heligmoneura*, is present in *Oligoschema* and short, but extended on each side and reduced in the middle. Aedeagus with simple apex. Female terminalia exceptionally short, the eighth tergite is laterally compressed, the ninth very short. The tenth segment is four times as long as the ninth, shovellike, extended downward, the sides turned downward. Sternites with bristly pile accentuated posteriorly. First sternite without pile.

Distribution: Oriental: *Oligoschema contorta* Walker (1857); *nuda* Becker (1925). I have seen an additional, undescribed species from North Palawan.

Genus *Cinadus* Wulp

Figures 383, 801, 1548, 1557, 2208, 2219, 2224, 2240, 2257

Cinadus Wulp, Tijdschr. Ent., vol. 41, p. 139, 1898. Type of genus: *Cinadus spretus* Wulp, 1898, by present designation.

Cinadus has 2 subgenera, *Chaetogonophora*, new subgenus and *Haplonota* Frey.

Rather large flies with the abdomen moderately stout and the male hypopygium unusually large and clublike. The large, long, apically high, thin superior forceps bear a rather deep notch and dorsal process that is rather similar to *Heligmoneura* Bigot with which it has often been placed. I distinguish *Cinadus* from related genera on the presence of the large gonopod, which is prominent and lateral and not enclosed by the superior forceps. Claspers and sometimes pseudoclaspers are present and borne by the gonopod. Paralobi, present in *Heligmoneura*, are lacking in *Cinadus*; the whole terminalia are more open, with larger cavity and the large, long coiled, freely extended aedeagus is a common feature. Last female sternite has very strong bristles. Length 20 mm.

Head, lateral aspect: The head is comparatively short, with the eye more or less flattened in front and a large central area of clearly demarcated, enlarged facets. Cheeks short, the face on the upper half nearly or quite plane with the eye. The lower half is gently produced and moderately prominent in profile because of the ventral recession of the eye. Occiput is very short in profile, bearing coarse hairs below and slender bristles in the middle which are deflected downward beginning at the upper fourth of the head and behind each upper eye corner there is a patch of 3 moderately stout, slightly curved bristles. Proboscis is directed downward, attenuate and comparatively narrowed at apex with a vertical crease on each side a fifth of the distance back from apex. Palpus slender, cylindrical with rather numerous, slender, finely attenuate bristles situated on the outer half and apex. Antenna attached at the upper third of the head, the first two segments are comparatively elongate, the slender first segment is a little wider and also longer than the slender third segment. Second segment twice as long as wide and a little more than half as long as the first segment. The first two segments each bear dorsal apical setae, ventral setae on the first segment and apical setae below on the second segment. Third segment is a little narrow near the apex with 3 short, dorsal setae and a long, slender arista slightly thickened at the apex and bearing a short bristle. This arista is distinctly longer than the first two segments together.

Head, anterior aspect: The width of the head is about 1½ times the height, the face is quite narrow beneath the antenna and not more than a fifth of the head width. It is widened below until at least twice its dorsal width. The surface is finely appressed pubescent, without pile on the upper half with a narrow, medial, triangular patch of moderately stout, whitish, long bristles on the lower face with also a lateral pair of black elements and with 2 or 3 pairs continued down the sides of the subepistoma and occasional bristly hairs included in the upper bristles. The front is very slightly widened, the vertex slightly narrowed. Front flat, pollinose with subappressed, bristly hairs along the eye margin. The vertex is deeply excavated; it and the small ocellarium both have vertical sides; the ocellarium is set quite far forward, visible in profile with only a pair of tiny bristles behind the ocelli. Behind the vertex the lateral, vertical grooves merge into a very deep, narrow, posterior groove.

Thorax: The thorax is comparatively short and high, the mesonotum convex, pollinose with loosely scattered, fine setae. There are 3 or 4 rows of rather fully differentiated, acrostical setae. Dorsocentral bristles are present over the middle but are short and include posteriorly 2 long, stout bristles on each side. Lateral bristles are long and stout and consist of 2 notopleural, 1 supraalar, with another far to the rear, 2 on the postalar callosity or sometimes only one, and 1 pair of long, stout, scutellar, marginal bristles. The scutellum is only moderately thick, convex, with deeply impressed rim and scattered hairs on the disc and on each side of the rim a row of 8 bristly hairs. Metanotal callosity with a tuft of coarse pile. Pleuron pollinose, with numerous, coarse hairs on the upper and posterior border of the mesopleuron, both anterior and posterior basalare, upper pteropleuron, hypopleuron, besides the usual propleural pile. Pronotum with 4 pairs of bristles. Postmetacoxal area membranous. Prosternum with a narrow, lateral band of chitin, which joins the lateral sclerites.

Legs: The hind femur and tibia somewhat lengthened and comparatively slender. The anterior 4 femora stout. The legs bear a few stout bristles and abundant, fine, appressed setae which are absent on the ventral and posterior surfaces of all the femora. Hind femur with 2 lateral bristles along the middle, a stout, subapical, dorsolateral bristle, another dorsomedially near the apex. Ventrally on the basal half there are 2 or 3 long, slender bristles and a ventromedial fringe of medium long, slender bristles or bristly hairs. Hind tibia peculiarly reduced in bristle content. It bears 1 stout bristle dorsolaterally close to the base. The other elements present are few and are scarcely more than bristly hairs. Hind basitarsus longer than the next three segments. Middle femur with a quite stout, long bristle anteriorly at basal and apical third, a smaller bristle posteriorly at apex and on the ventral half a row of 5 long, slender bristles. Middle tibia with 3 bristly hairs dorsally, 2 long, slender bristles posteroventrally on the outer half, and also 2 stout, shorter, ventral bristles on the outer half. Anterior femur with 5 long, slender bristles or some moderately stout elements ventrally on the basal half. This tibia has 2 slender, short, posterodorsal bristles, 2 quite long, attenuate posteroventral bristles on the outer half besides rather numerous, fine, long hairs. The tarsal bristles are quite long on the first two segments. Claws moderately stout and sharp, curved near the apex, pulvillus large; empodium stout, except close to the apex, which is finely attenuate.

Wings: The wings are yellowish hyaline with villi on the outer fourth and posterior margins. The marginal cell is wide and closed with a moderately long stalk. The second submarginal cell is considerably widened anteriorly entirely in front of the third vein. Posterior branch of the third vein with a conspicuous bend near the middle. Fourth posterior cell closed and stalked, the anal cell likewise. Posterior crossvein absent. The anterior crossvein enters the discal cell beyond the middle. The third vein forks a little beyond the discal cell. Alula large; ambient vein complete.

Abdomen: The first segment of the abdomen is considerably wider than the second, with a dense tuft of long, fine hairs laterally and 2 or 3 bristles. Surface of abdomen with abundant, appressed, coarse hairs in the middle which are bristly or setate and form posterior fringes. Segments with scattered, longer, erect, lateral hairs, more abundant on the second segment and the posterior corners of the third to sixth segments, and with distinct, stout bristles. Males with eight tergites; the seventh is little more than half as long as the sixth and the eighth laterally is half as long as the seventh and is reduced to membrane in the middle. Sternites with a few, very slender bristles or bristly hairs. The first sternite has numerous, long, fine hairs. Females with seven segments not included in the ovipositor. Male terminalia unusually large, more or less elongate and club-shaped. The superior forceps are the largest element; they are apically high, broad, and quite thin, deeply notched with long, stout, dorsal process; its posterior border has a fringe of long, conspicuous bristles. The large, long gonopod is lateral, with a crossed pair of apical processes and a large pair of medial, upturned, microsetate pseudoclaspers. Hypandrium large, but the cavity of the terminalia is widely open below, with very long, upwardly curved aedeagus and valves extending outside the terminalia. Female with the eighth segment from the dorsal aspect broad at base, only a little narrowed, only a little longer than wide at base and hemicylindrical or at least strongly convex. The short ninth segment and the somewhat longer, medially creased tenth segment strongly deflected downward. Posterior margin of the seventh tergite on the outer third and whole posterior margin of the seventh sternite with long, conspicuously stout bristles.

Many of the Asiatic species now placed in *Heligmoneura* Bigot probably require reassignment to *Cinadus.* Some of these probably belong in the closely related *Oligoschema* Becker, or *Orophotus* Becker or some in *Neomoctherus* Osten Sacken. In any case *Heligmoneura* appears to be restricted to Ethiopia. I am unable to determine their proper location without a study of all species concerned. Therefore, I place here at present only those species which seem certainly to belong in this genus, *Cinadus.*

See *Heligmoneura* Bigot for discussion of geographic relationships and the need for reassignment of many species. I have examined a specimen of *occidentalis* Ricardo, in the British Museum (Natural History) from the Gold Coast, which clearly belongs to *Cinadus* as here understood, and which I removed from *Heligmoneura.* See addendum (p. 595) for other species.

Distribution: Ethiopian: *Cinadus africanus* Ricardo (1919); *occidentalis* Ricardo (1925).

Oriental: *Cinadus chaetoprocta*, new species; *elegans* Frey (1934); *spretus* Wulp (1898); *tenuicornis* Walker (1860) [=*spurius* Wulp (1898)].

Chaetogonophora, new subgenus

FIGURE 2411

Type of subgenus: *Chaetogonophora chaetoprocta*, new species.

Rather large flies related to *Cinadus* Wulp, from which they appear to be chiefly distinguished by the small, tightly enclosed genital cavity of the male and in the female by the presence on the eighth sternite of an exaggerated, posterior fringe of long, spikelike spines or spinous bristles. I can find no other basis for distinction. Length 16 to 18 mm.

Head, lateral aspect: The head is comparatively short but large, the very large eye slightly flattened anteriorly with a large area of enlarged facets. Upper half of the face plane with the eye, the lower half slightly gibbous, a little more prominent because of the recession of the eye. First antennal segment more than three times as long as wide; the second segment is 1½ times as long as wide, but bears short setae above, longer setae and 1 or 2 weak bristles below. The third segment is short, quite thin, oval with the base slightly narrowed and the apex somewhat more narrowed. A microsegment is absent, the style is long and slender at least as long as the combined length of all three segments. Upper occipital bristles rectangularly proclinate; the middle of the gibbosity of the face bears a vertical row on each side of 4 quite long, moderately stout, black bristles, finely attenuate, and between these a vertical row of 4 more bristles which are stout and white. Along the sides of the subepistoma there are at least 5 quite long, stout bristles, the upper element white and 5 long, bristly hairs.

Head, anterior aspect: The width of the head is about 1½ times the height. Face below the antenna is narrow, about a ninth the head width and strongly widened below. Front small, slightly wider than the upper face with a double row of bristly hairs along the eye margin. Vertex slightly narrowed opposite the anteriorly placed ocellarium but widened posteriorly. The vertex is rather deeply excavated with nearly vertical sides, the ocellar tubercle is small with vertical sides and bears a pair of strongly curved and proclinate bristles behind the ocelli.

Thorax: The mesonotum is rather high, somewhat narrowed anteriorly and bears scattered, suberect setae. An irregular band of acrostical setae is continued the full length of the mesonotum and long, slender dorsocentral bristles begin a little in front of the suture. Humerus with fine, long, pile. Lateral bristles quite long, moderately stout and attenuate. The notopleuron bears 2 bristles, there is 1 stout supraalar, sometimes followed by a more slender bristle above the postalar callosity; postalar callosity with 1 long, stout and 1 weak bristle. There is a weak posthumeral bristle present. Scutellum thick, convex, with distinctly impressed rim, the posterior part of the disc with fine setae and the margin with a pair of quite stout, long bristles. Metanotal callosity creased behind and bearing bristly pile. Pronotum with 4 widely spaced bristles. Postmetacoxal area membranous but with the lateral metasternum encroaching to some extent laterally. Prosternum fused anterolaterally. Metapleuron with at most extremely weak bristles or bristly hairs. Hypopleuron with 1 long, slender, black bristle and a few hairs.

Legs: The legs are similar to *Cinadus*. The bristles on the ventral surface of the femora are emphasized on the basal halves of all of the femora.

Wings: The wings are similar to *Cinadus*. The marginal cell is quite wide apically, closed with a short stalk. The posterior branch of the third vein has a deep, conspicuous bend in the middle. Only the apical third of the wing and the margin of the posterior cells villose. Wing otherwise like *Cinadus*.

Abdomen: In the abdomen of the male the sides of the first 5 segments bear conspicuously long, rather stout, posterior bristles on the lateral third of the tergites. Weaker bristles or bristly hairs are on the remaining tergites. Males with eight tergites, the eighth is almost linear in the middle, a little longer laterally. Females with seven tergites not included in the ovipositor. Male terminalia quite large and broad from the dorsal aspect. The forceps are long, especially the posterior two-thirds, which are slender and crossed apically. Dorsal part with a long, blunt, conspicuous arm. There is a strong gap between the gonopod and forceps. The gonopods meet below and have claspers. Hypandrium short. Females with 3 or 4 bristles, which are prominent on the posterior margins on each side of all of the tergites. The ovipositor consists of the rather small and somewhat compressed, triangular or subconical, short, eighth segment and the still smaller and more narrow ninth and tenth segments, which, together, are as long or slightly longer than the eighth segment and depressed downward. Second to fifth sternites with some long, slender bristles; seventh sternite with a posterior fringe of more stout, black bristles consisting of 4 pairs. Posterior margin of the eighth sternite with 4 or 5 pairs of remarkably stout, long, spikelike bristles.

Chaetogonophora chaetoprocta, new species

Length 20 mm. Male, female. Head: The head is black, except on the lower, gibbous portion of the face, which is light brownish yellow. Occiput covered with greyish pollen, the vertex and front with light, brownish yellow pollen, and the face everywhere with pale, brownish yellow micropubescence. Ocular margin of the face on the upper half with a linear, vertical row of longer, appressed micropubescence. Gibbosity of face confined to the lower half, with numerous, long, white bristles restricted to the central portion and continued down the sides of the subepistoma. On the upper part of the gibbosity are 4 to 6 long, slender, black bristles and sometimes more slender, black elements mixed with pale bristles along the sides of the subepistoma. Palpus slender, long, blackish with yellow hairs. Proboscis black, the apex acute and narrowed above and below. The antenna pale brownish yellow with the small, elongate oval, apically tapered, third segment brown and the long, slender style black. Pile of antenna bristly and black. Front with chiefly black bristles and a few, yellow elements along the sides. Behind the ocelli several small, black bristles are curled forward. Bristles of upper occiput black and proclinate.

Thorax: The thorax is comparatively high and slightly narrowed anteriorly, and everywhere black in ground color. The mesonotum is densely brown pollinose, becoming more greyish laterally and with an ill-defined, slightly lighter, medial vitta. Pile of mesonotum scattered, scanty, erect, black and setate. The strong, long, lateral bristles are black also. Scutellum densely pale grey pollinose, with a submarginal row of erect, fine, black setae in front of the crease and 1 pair of stout, long, black bristles and 3 or 4 much shorter, white hairs. There is a tiny, light brown spot posteriorly on the humerus; whole pleuron pale greyish yellow pollinose. The slender bristles of the metapleuron yellowish white with 1 or 2 black bristles ventrally and with a long, black bristle and some yellow hairs on the hypopleuron.

Legs: The anterior femur and tibia, the whole of the middle tibia, the whole of the middle femur, except the narrow black apex, and the whole of the hind femur, except the black, apical fifth, are all brownish yellow. The dorsal pile of all the femora is fine, short, dense, appressed and black. Medial surface of hind femur with numerous, conspicuously longer, black bristles over the middle part, changing to yellow at the base and apex. Hind femur with 2 subdorsal, black bristles at the apical fifth, a lateral, black bristle at the basal third, and with 1 or 2 prominent, yellow bristles ventrally near the base. This femur is somewhat swollen gradually over the middle, with the swelling confined to the dorsal part. Hind tibia of uniform thickness, yellow on the basal half, becoming in the middle diffusely black and black on the remaining half, with a black, basal dorsal bristle, another at the middle, and a third near the middle placed medially. Hind tarsus entirely black. Posterior surface of midfemur with some bristly, yellow pile. Midfemur on the basal half with 4 or 5 long, yellow bristles ventrally and other yellow hairs and with 2 prominent, long, black bristles anteroventrally in the middle, and with 1 stout, black, posteroapical bristle. Midtibial bristles all yellow, except for 1 small, black bristle in the middle dorsally. Pile of the anterior and middle tibiae chiefly yellow with a few, fine, scattered, black setae posterodorsally. Anterior tibia with 2 small, black, dorsal bristles, 2 conspicuous, long, yellow, posteroventral bristles and numerous, more slender, ventral, yellow bristles and bristly hairs. The anterior femur likewise has numerous, ventral, yellow bristles and bristly hairs. First segment of anterior and middle tarsi light yellow, remaining segments similarly colored but becoming blackish more extensively toward the apex; the terminal segment is almost wholly black. Claws almost entirely black, strongly bent at apex. Anterior and middle coxae chiefly yellowish, except at the base.

Wings: The wings are tinged with brownish yellow; the whole outer fourth has dense, blackish villi, which are continued narrowly along the posterior margin to the anal cell. Posterior branch of the third vein with a strong bend in the middle.

Abdomen: The abdomen is black with brownish to grey pollen, the postmargin somewhat yellowish. The strong, lateral posterior bristles yellowish, replaced in the female toward the middle of the segment by black bristles. Terminalia entirely black, except the aedeagus, which is brown.

Female: Similar to the male; the hind femur is more slender, the last 2 tergites with very prominent, stout, black bristles, the last sternite with a posterior border of 4 pairs of long, black, spikelike bristles.

Type: Male; allotype female; 1 paratype female, all from Calcutta and labeled "T: vuo-Eklund." In the collection of the University Museum at Helsinki.

Subgenus *Haplonota* Frey

FIGURES 345, 794, 1478, 1487, 2182, 2248, 2361, 2417

Haplonota Frey, Rev. Suisse Zool., vol. 41, p. 316, 1934. Type of subgenus: *Haplonota elegans* Frey, 1934, by original designation.

I can see few essential differences after comparing the type of *Haplonota elegans* with *Cinadus* Wulp. The face is more narrowed in *Haplonota elegans* and the posterior branch of the third vein is more undulate. The scutellum lacks bristles, whereas they are well developed in *Cinadus*. Length 20 mm.

Head, lateral aspect: The head is of medium length; in profile plane behind; strongly elliptical in front. The face is produced only on the lower half where the gibbosity is slightly longer than the first antennal segment. The occiput is barely visible in profile, with a fringe of long hairs, which are delicate, and near the point of the upper eye angle it bears 3 distinct, though slender, short, nearly straight, black bristles. The proboscis is cylindrical, scarcely thicker at the base; the apex is bluntly rounded, short pilose and directed obliquely forward. Palpus quite slender, cylindrical, pilose, the apex with long hairs. The antenna with the first segment nearly twice the length of the second segment, both with short, fine bristles below; the second segment has a complete circle of bristles laterally. The third segment is only as long as the second; it bears a style 4 or 5 times as long as the third segment itself. The 2 minute bristles of the ocellus curved forward and downward.

Head, anterior aspect: Face entirely pubescent, there is no pile on the upper half, the medial portion of the entire gibbosity bears about 12 long, slender, pale bristles. On each side of the gibbosity are 2 bristles which are somewhat more divergent and perhaps stouter. On the lower lateral slopes of the subepistoma there are 2 bristles of similar strength nearly as long. The face is quite narrow, and below the antenna it is approximately an eleventh the width of the entire head and divergent below. Anterior facets of the eye at least double the lateral ones, the enlarged area set off by a minute, angulate ridge, when viewed from above.

Thorax: The thorax is strongly arched, with a double acrostical row of fine, erect pile in the middle on each side of which are bare, pollinose stripes. Lateral portion of the mesonotum with fine, erect, scattered pile. Humerus pilose. The lateral bristles consist of 2 strong notopleural, 1 supraalar, and a double row of 5 widely separated, long, slender prescutellar bristles. Scutellum with impressed rim and convex; the margin bears fine hairs and has 2 longer, extremely weak hairs, which can hardly be classed as bristles. Mesopleuron pilose above; pteropleuron with pile above, hypopleuron with a single, long, bristly hair and with some fine, scattered, short hairs above. Metapleuron with a band of long, fine hairs, the slopes of the metanotum pilose.

Legs: The hind femur is slightly thickened gradually from the base with a pair of preapical dorsal bristles, 1 lateral bristle at the basal third, 2 ventrolateral bristles, 1 at the basal third and 1 at the apical third and 1 long, ventral bristle quite close to the base, with a medial bristle adjacent. The hind tibia bears rather dense pile of moderate length dorsally and ventrally and with 2 bristles near the middle dorsally, 2 dorsally at the extreme base, 1 at the apex, 1 stout apical bristle ventrolaterally, and 2 lateral bristles near the middle; middle femur with the bristles somewhat longer and stouter and microtuberculate; it has 3 anteriorly along the middle, 3 especially well developed ventrally from near the base to just beyond the middle, and 3 at base and middle which are ventromedial in position. Middle tibia with a pair of long, ventral bristles well developed at the outer fourth, a still longer, unpaired, ventral bristle just beyond the middle, and with 1 long ventral apical pair of bristles. Dorsally there is a single, short bristle in the middle. Anterior femur with a group of 3 rather long, stout bristles ventral in position, quite close to the base and followed by about 5 slender, stiff hairs down the middle of the ventral surface, one of which is longer than the others. Anterior tibia with 1 quite long, ventral apical bristle and with 2 long, stout, posterior bristles at the basal and apical third. Anterior basitarsus is notable for 2 unusually long bristles posterior in position at base and apex.

Wings: The ambient vein complete, including the alula.

Abdomen: The abdomen is tapered and subcylindrical; the postmargins of the tergites bear a row of 6 or 7 moderately long, stiff hairs or extremely weak bristles. Sternites without distinct bristles. Male terminalia very similar to *Cinadus* Wulp in general type of construction. It is large, stout and conspicuous, with the superior forceps deeply bisected posterolaterally. Female unknown. Male known only from Java.

Cobalomyia, new genus

FIGURES 385, 799, 1550, 1560, 2202, 2216, 2448, 2449

Type of genus: *Senoprosopis fanovanensis* Bromley, 1942.

Medium size flies, related to *Cinadus* Wulp; the antennal style is much shorter. The male terminalia distinctly small and inconspicuous and the female is without bristles on the seventh sternite. The posterior branch of the third vein is only very slightly and gently undulate. Length 18 mm.

Head, lateral aspect: The head is rather short; the face is plane with the eye on the upper half, moderately and gently produced below and more conspicuous on account of the ventral recession of the eye. Cheeks moderately high. The occiput in profile is very short, especially below and only a little longer above. It bears dense, short, stiff hairs below, longer at the lower eye corner where they are almost bristly, and at the upper eye corner are 5 pairs of stout, short, slightly curved bristles. Proboscis stout, swollen at the base and pointed at the apex with lateral, subapical crease. Palpus small, slender and cylindrical with coarse hairs and 1 or 2 bristly hairs at the apex. Antenna attached at the upper third of the head; the first segment is 1½ times as long as the second segment, the second is narrowed at the base, twice as long as wide. The third segment is long, slender and attenuate and almost as long as the combined length of the first two segments. It bears a short style, barely longer than the third segment. First and second segments with long, strongly appressed setae.

Head, anterior aspect: The width of the head is a little less than 1½ times the height of the head. The face is narrow beneath the antenna and about a tenth the head width and strongly widened below. Its surface is very appressed pubescent or pollinose, without pile on the upper half and with a small triangular patch of mostly yellowish bristles in the middle of the lower face and with more narrow bristles continued down the sides of the subepistoma. Front distinctly but slightly widened, the vertex narrowed. The vertex is only moderately excavated; its sides are vertical and the sides of the small ocellar tubercle are also nearly vertical. The ocellar tubercle is set anteriorly forward but not visible in profile; it bears a pair of small, stout, anteriorly curved bristles behind the ocelli.

Thorax: The thorax is comparatively short and high, the mesonotum convex anteriorly and posteriorly, nearly bare but with a few anterolateral, scattered setae. There is a well differentiated, double, acrostical row of setae and there are quite short, dorsocentral bristles near the suture and behind the suture 4 exceptionally long, stout bristles. Lateral bristles also unusually stout and tuberculate. There are 2 notopleural bristles, 1 supraalar, 2 others to the rear, and 2 on the postalar callosity. Scutellum with 1 pair on the rim. The moderately thick, convex scutellum has a deeply impressed rim and the lateral metanotal callosity bears distinctly stout bristles together with more slender elements. Upper mesopleuron and pteropleuron with a few, fine hairs. Metapleuron with 3 or 4 bristles and other bristly hairs. Pronotum with weak bristles. Hypopleuron with 2 stout, long bristles.

Postmetacoxal area membranous; prosternum united anteriorly to the lateral sclerite.

Legs: All the femora are stout, especially the anterior 4, which are a little swollen dorsally and towards the base on the anterior pair. Hind femur somewhat swollen on the outer half, especially in the male. The ventral and posterior surfaces of the femora are largely bare, but elsewhere the legs bear numerous, fine, appressed setae. Bristles are comparatively numerous and stout on all the femora and on the hind tibia. The hind femur bears 2 lateral bristles along the middle, 1 on either side dorsally at the subapex and a dorsomedial bristle at the apex; it also has 4 stout, ventrolateral bristles besides 1 basal and 1 longer, stout, ventral bristle at the middle; this femur has a ventromedial fringe of short, comparatively stout, medial bristles. Hind tibia with a stout, long, basal, dorsolateral bristle, another beyond the middle; it has an equally conspicuous, dorsomedial bristle at the middle, and 2 ventral bristles on the outer half. Hind basitarsus as long as the next 3 segments. Middle femur with a very stout, anterior bristle beyond the middle and 5 equally stout, ventrolateral bristles, 2 others ventrally near the base. Middle tibia with 2 weak, posterodorsal bristles, 1 anterodorsal on the apical fourth, 2 distal, weak, short, posteroventral bristles, 2 long, distal, posteroventral bristles and 2 still longer, stout, ventral bristles. Anterior femur only with bristles ventrally on the basal half, included among these are 2 long, striking bristles very stout at base and tuberculate, besides several other less slender bristles. Anterior tibia with an anterodorsal bristle at the base, 2 posterodorsal bristles and 2 quite long, conspicuous, posteroventral bristles. Claws stout, sharp, bent at the apex; pulvilli large; the empodium stout with fine apex.

Wings: The wings are yellowish brown with villi on the outer fourth. The marginal cell is moderately wide, the subcostal cell quite narrow. Marginal cell is closed with a moderately long stalk, second submarginal cell, as in *Cinadus*, is widened at the base, but the posterior branch of the third vein is rather gently undulate, perhaps a little more so in the male. Fourth posterior cell and the anal cell closed and stalked. Alula large and wide but distinctly narrowed at the base. Ambient vein complete.

Abdomen: The abdomen is rather slender and covered with scanty, coarse, flat appressed hairs, which form no marginal fringes, although there is a posterior lateral row of scattered bristles, which become a little stouter laterally, but conspicuous only in the females. In the female the first segment has 3 or 4 very stout, lateral bristles; it has 4 on each side of the second segment and 2 long, stout bristles on each side of the remaining segments, besides the weaker, submedial bristles. Male with eight tergites, the eighth tergite in the middle as well as at the sides is half as long as the seventh. Female with seven tergites not included in the ovipositor. Male terminalia distinctly small, much smaller than in *Cinadus*, although of the same general type of organization. The moderately elongate, superior forceps are of about the same height apically as at base. The apex is laterally sulcate but not deeply and the apical portion is rather thick. The gonopod is long, with the ventral cavity exposed; the aedeagus and guides are exposed but not at all prominent or long. Hypandrium short but present. Female terminalia rather like *Cinadus*; the eighth tergite is shaped the same but bears a pair of long bristles laterally. It is more narrowed apically and the ninth and tenth segments are longer but also deflected downward. Seventh sternite with only fine and coarse hairs posteriorly.

Distribution: Ethiopian: *Cobalomyia fanovanensis* Bromley (1942).

Genus *Neomochtherus* Osten Sacken

FIGURES 362, 789, 1475, 1484, 2309, 2311, 2395, 2398, 2426, 2427

Mochtherus Loew, Linnaea Entomologica, vol. 4, p. 58, 1849. Type of genus: *Mochtherus pallipes* Meigen, 1820. Designated by Coquillett, 1910, the fifth of 7 species. Preoccupied by Coleoptera, 1846.

Neomochtherus Osten Sacken, Catalogue of the described Diptera of North America, ed. 2, Smithsonian Misc. Coll., vol. 16, pp. 82, 235, 1878. Change of name.

Smaller than medium size and rather slender, attenuate flies. They are characterized by the short face without a ventral gibbosity. The face has only a limited amount of stiff pile and a few, slender bristles near the epistomal margin. In general these flies have a rather bare appearance resulting from short though dense pile. Bristles are particularly emphasized on the abdominal sternites, where their strength and conspicuousness serve as the principal character separating this genus from its congeners; strong bristles are also generally present on the postmargins of the tergites. The halves of the superior forceps have a tendency to be broad, obtuse, with the apex turned abruptly inward at a right angle so that the end of the terminalia is often very blunt. Also the forceps tend to have a small, apical lobe or process. Thus, two types are present, a short, blunt form and a longer, less obtuse terminalia, each with a process. Female terminalia strongly compressed but only beginning on the outer half of the eighth segment. Its nearest relative is *Cerdistus* Loew. Length 15 to 20 mm.

Head, lateral aspect: The face is not produced and is scarcely visible on the upper half; the whole face is nearly vertically plane, the lower portion of the face being very slightly produced beyond the vertical plane; it forms a low triangle due to the posterior recession of the eye. The eye is anteriorly strongly convex, with the posterior ventral fifth anteriorly recessive, the remaining posterior margin plane in profile. The occiput is moderately well developed and continued in the same thickness to the vertex; pile of occiput fine and moderately abundant through the middle both in front of and behind the bristle-row; there is a dense tuft of pile behind the vertex on each side and the lower occipital pile is fine, curled, tufted, dense and moderately long. Bristles begin below the middle of the head and consist of 12 to 14 pairs; they are pale and moderately stout; the bristles at or just above the middle are turned downward, the upper and stiffer bristles are slightly curved and directed upward; lower corner of the occiput adjacent to the eye with 3 long, weak bristles. Proboscis of moderate size, but the apex blunt and slightly tapered above; the dorsal ridge is high, the whole structure subcylindrical with the base a little swollen and with fine, scattered, long pile below. Palpus of one segment, with stiff, long hairs apically and ventrally, shorter pile laterally and dorsally. The antenna is attached shortly below the upper third of the head, slender but of only moderate length. The first segment is a little longer than the second. The third is as long as the first two segments combined; this segment is slender and tapers from near the base to the apex; it bears a short microsegment and a short style approximately three-fourths as long as the third segment; style with a minute apical spine.

Head, anterior aspect: The face below is a fifth the head width and divergent below to a third the head width. Subepistomal area long, concave and pubescent. The face is pubescent; pile and bristles are restricted to the lower third; in the center below, is a small patch of weak bristles and stiff, long hairs directed forward; above are 2 moderately stout bristles and 2 weak bristles and 4 or 5 hairs. Lower anterior margin of the epistoma and the lateral margins with a double row of bristles; the lowermost elements consist of 12 pairs of slender bristles or stiff hairs: above them lie stiff, long bristles, 3 laterally and 4 pairs in the middle. Still higher in the middle of the face is an additional row of 3 pairs, and above these a single pair; in the midline of the face there may be a single, long bristle. The front is slightly divergent, the vertex distinctly more convergent, both pollinose. Sides of front with a row of short, appressed bristles and a patch above the antenna containing 2 stouter bristles and some fine hairs. Vertex only moderately excavated but with steep sides. Ocellarium small, containing 2 or 3 pairs of fine, short setae. Eyes centrally enlarged.

Thorax: The mesonotum and pleuron pollinose. The pile of mesonotum is quite scanty but more or less uniformly distributed and composed of short, basally stout, fine, suberect setae. Acrostical elements are undifferentiated; dorsocentral elements undifferentiated anteriorly but at the anterior postalar level they are developed into moderately long, stout bristles, 4 on each side. Humerus pilose. Lateral bristles of the mesonotum are stout, long and consist of: 2 notopleural, 1 postsupraalar, 1 suprapostalar, 2 postalar, and 1 pair of scutellar bristles widely spaced. Scutellum convex, thick, pollinose, with impressed rim; the disc bears a number of fine, erect, scattered hairs. Propleuron with abundant, long, fine pile. Pronotum with 5 pairs of widely spaced, slender bristles; ventral posterior propleuron with 3 short, distinct bristles. Upper margin of the mesopleuron and the anterior prolongation with numerous, fine, erect hairs; posterior margin with only 1 or 2 hairs. Upper sternopleuron with 10 or 12 long, fine hairs; lower posterior sternopleuron with several long, fine hairs; upper pteropleuron with a few, fine hairs, posthypopleuron with 5 long, weak bristles; the metapleuron has a vertical row of 6 equally weak, long bristles. Metanotal slopes pubescent with a patch of 12 or more fine, stiff hairs. Lateral and ventral metasternum with numerous, scattered, long hairs; postmetacoxal area membranous; tegula pubescent only; squama with a multiple fringe. Prosternum fused.

Legs: The legs are stout, the anterior and middle pairs slightly thickened; the ventral aspect of the middle femur is plane, the dorsal margin convex; ventral margin of the posterior femur not plane; these femora are slightly narrowed towards the base and again close to the apex. Pile of femora and tibiae abundant, flat appressed and setate, with scanty amounts of fine, erect, ventral pile which on the hind femur is absent, except medially. The hind femur bears stout bristles as follows: 1 at the dorsomedial apex, a pair subapically and dorsally, the outer member of which forms one of a lateral row of 4; there are 5 ventrolateral and 4 longer ventral bristles, 2 of them situated at the base. The hind tibia has 1 strong, long, dorsomedial in the middle, 3 dorsolateral, and 3 ventrolateral bristles. A brush of setae takes origin from the middle and extends on to the first two tarsal segments. Basitarsus as long as the next three segments. Middle femur with a stout bristle posteroapically, 2 anterior, 3 anteroventral and 4 ventral bristles on the basal half. This tibia has 2 dorsal and 2 anterodorsal restricted to the outer half, 3 posterior, 2 long, posteroventral and 2 long ventral bristles; both sets are restricted to the outer half. Anterior femur with 4 or 5 long, slender bristles ventrally on the basal half. Anterior tibia with 3 or 4 short dorsal and with 3 exceptionally long, stout posteroventral, together with a ventral fringe of 4 or 5 quite long, slender, bristly hairs increasing in length distally; apical circlet with 2 dorsal, 2 medial, 2 anterior and 5 or 6 ventral elements. Apical bristles of anterior and middle tarsi exceptionally long. Tarsi end in long pulvilli; slender, long empodium; sharp, apically curved claws.

Wings: The wings are hyaline, the marginal cell is closed with a short stalk; the anterior branch of the third vein ends above wing apex, the posterior branch well behind the wing apex. First posterior cell narrowed by the basally swollen second posterior cell; fourth posterior cell closed and stalked but only slightly convex anteriorly. Lower end vein of discal cell pulled back toward the base; second basal cell ends in 2 veins or a very short middle vein; anal cell closed; alula large; ambient vein complete.

Abdomen: The abdomen is slender, subcylindrical and tapered, longer than the wings. The first tergite is laterally swollen and convex. Pile of abdomen abundant but quite appressed and setate. There are a few longer hairs sublaterally on the second tergite and sides of the first. Sternal pile short setate and appressed. The tergite and sternites bear stout, prominent bristles. The first two tergites each bear 3 pairs; the third to seventh tergites have 2 or 3 pairs of stout bristles and additional setae across the middle of the posterior borders. The sternal bristles are subpostmarginal, 2 pairs on each side of each sternite. Eight tergites in males, the eighth quite short. Seven tergites present in the female, the eighth included in the ovipositor. In the male terminalia the superior forceps are rather large and elongate, swollen with notched apex, closely apposed at apex, without dorsal space and tending to close off the genital cavity below. Gonopod half as long as upper forceps, and also directed straight backward. Hypandrium short but longer than the eighth sternite. Proctiger quite long, protruded and erect. Female terminalia elongate, strongly attenuate from the rather swollen subquadrate base and moderately compressed laterally on the upper portion. No spines are present, except a few, minute, very short elements ventrally below the apex.

Distribution: Nearctic: *Neomochtherus angustipennis* Hine (1909); *gracilis* Wiedemann (1828) [=*auratus* Johnson (1895)]; *latipennis* Hine (1909).

Neotropical: *Neomochtherus fuliginosa* Bellardi (1861); *nigrostriata* Engel (1930); *rufipalpis* Macquart (1838); *truquii* Bellardi (1861) [=*plebeius* Osten Sacken (1887), *taeniata* Bellardi (1861)].

Palaearctic: *Neomochtherus aegyptius* Macquart (1838); *albicans* Loew (1849); *arabicus* Macquart (1838); *candidus* Becker (1923); *clypeatus* Becker (1915); *eulabes* Loew (1870); *farinosus* Loew (1870); *flavicornis* Ruthe (1831) [=*olivierii* Macquart (1838)]; *flavipes* Meigen (1820) [=*siculus* Macquart (1834)]; *fuscifemorata* Macquart (1838); [=*striatipes* Loew (1849)]; *grandicollis* Becker (1913); *hauseri* Engel (1927); *lepida* Loew (1871); *longitudinalis* Loew (1856); *malarias* Gerstaecker (1861); *mundus* Loew (1849) [= ?*analis* Macquart (1838)]; *ochriventris* Loew (1854) [=*carthaginis* Becker (1915), *illustris* Shiner (1867)]; *pallens* Pallas in Wiedemann (1818); *pallipes* Meigen (1820) [=*fulvipes* Meigen (1820), *longipennis* Megerle in literature in Meigen, *omissa* Wiedemann (1820), *xanthopus* Megerle in literature in Meigen]; *penicissus* Becker (1923); *perplexus* Becker (1923); *schineri* Egger (1855); *schistaceus* Becker (1908); *tricuspidatus* Engel (1927); *tridentatus* Loew (1871).

Ethiopian: *Neomochtherus annulitarsis* Loew (1857); *deserticola* Karsch (1887); *madagascarensis* Bromley (1942); *monobia* Speiser (1910); *natalensis* Ricardo (1919); *neavei* Ricardo (1919); *sinuata* Loew (1857); *unctus* Oldroyd (1939).

Oriental: *Neomochtherus congedus* Walker (1951); *gnava* Wulp (1872); *indianus* Ricardo (1919); *lautus* Wulp (1872); *patruelis* Wulp (1872); *striatus* Wulp (1892); *trisignata* Ricardo (1922).

Australian: *Neomochtherus rutilans* Wulp (1898).

Country unknown: *Neomochtherus melleus* Macquart (1838).

Genus *Orophotus* Becker

FIGURES 350, 792, 1543, 1553, 2288, 2319, 2418, 2503

Orophotus Becker, Ent. Mitt., vol. 14, p. 137, 1925. Type of genus: *Orophotus univittatus* Becker, 1925, by monotypy.

Large flies with exceptionally narrow face and vertex. The third antennal segment is exceptionally slender and attenuate. Male terminalia quite large and much more like that of *Cinadus* Wulp, both in its composition and external pattern, than that of *Oligoschema* Becker. Sternal bristles generally reduced, especially on the last sternites; an isolated tuft of strong bristles may sometimes be found on the middle sternite. Tergal bristles follow the pattern of the sternal bristles. However, there is a group which, like *Orophotus mandarinus* Bromley, have the long, slender, third antennal segment of this genus but have the abdominal segment, both sternites and tergites, equipped with remarkably exaggerated, long, curved, almost spikelike bristles, and in which respect they parallel the subgenus *Chaetogomophora*, new subgenus of *Cinadus* Wulp. Length 28 mm.

Head, lateral aspect: The face is not produced or visible on the upper third but is moderately protuberant below, with the anterior profile nearly plane. The epistoma is produced distinctly below the eyes. Eyes slightly more narrow below but with scarcely any recession; they are strongly convex anteriorly and distinctly plane over most of its posterior profile. The occiput is moderately swollen above the middle but obliterated at vertex, slightly sunken and concave across the middle, and a little more protuberant below; occipital pile scanty, long, and stiff with on the upper third a few, weak bristles consisting of 3 pairs of pale bristles and above them 3 pairs of somewhat stiffer, black bristles, to which may be sometimes added 3 or 4 others on the postmedial slope of the vertex. The proboscis is cylindrical, very slightly swollen at the base, the apex gently tapered above and below and bearing a few, stiff hairs; also a few, long, stiff hairs at the base; dorsal ridge absent; direction obliquely downward. Palpus of one segment, but with a slight trace of a fused basal segment; they are elongate, slender, cylindrical, with 3 stout bristles laterally and 1 extremely long, apical bristle besides other stiff, bristly hairs. The antenna is attached at the upper third of head and slender; the first segment is 1½ times as long as the second. The third segment is unusually slender and, with the microsegment included, is nearly as long as the first two segments combined. Microsegment three times as long as wide; the style is as long as the first two antennal segments; basally it is equal in thickness to the microsegment and bears a minute spine at apex. First antennal segment with a dense patch of appressed setae dorsally on the outer half and others below reaching nearly to the base, 2 or 3 of which are slightly longer. Second segment similarly clothed but only on the outer half. Third segment with 3 or 4 dorsal setae.

Head, anterior aspect: The face below the antenna is about an eighth the head width and expanding greatly below. Subepistomal area rather large, V-shaped, deep, oblique with slanting sides and pubescent. Face pubescent, without pile except for 5 or 6 long, slender hairs lying above the triangular patch of midventral bristles. This patch contains dorsally 2 and below it 8 bristles disposed in 2 rows, followed by a ventral circlet containing 4 pairs of long, stout, pale bristles. Sides of subepistoma with slender bristles. The front is of the nearly same width as the upper face or very slightly wider. The vertex is distinctly convergent; sides of front with a dense patch of appressed setae. Ocellarium low with 3 or 4 pairs of appressed setae directed forward and placed behind the ocelli. Vertex deeply excavated with nearly vertical sides. Eye facets enlarged.

Thorax: The mesonotum and pleuron pollinose. Pile of mesonotum scanty, fine and setate, the acrostical elements more coarse and consisting of 2 to 3 rows with bare, adjacent stripe; the dorsocentral bristles are expanded laterally only to the humerus; they become long in the middle of the mesonotum and are quite long posteriorly. Humerus pilose. Long, stout, lateral bristles are present and consist of 2 notopleural, 1 or 2 postsupraalar, 1 suprapostalar, 3 postalar, and 1 pair of scutellar bristles. Scutellum thick, convex, with impressed rim and 12 to 15 long, stiff hairs on each side. Pleuron with stiff pile ventrally and a fringe row of weak bristles immediately above the anterior coxa, with long, stiff hairs on the posterodorsal section, 5 or 6 weak bristles on the pronotum. The mesopleuron has only a few, very fine, scattered hairs posteriorly, additional ones on the upper posterior sternopleuron, and 8 to 15 long hairs on the upper pteropleuron; it has a vertical row of 4 long, stout bristles on the posthypopleuron and a similar row of 5 on the metapleuron. Metanotal slopes bullose with a dense patch of long, stiff, upwardly curved pile. Lateral and ventral metasternum with numerous, long, stiff hairs; postmetacoxal area membranous, pubescent; posterior basalare with 2 or 3 distinct bristles and some setae; squama with multiple fringe. Prosternum narrowly fused laterally.

Legs: All the femora are stout, the middle and anterior pairs especially stout. The principal characteristic of these legs is the reduced number of bristles and the long, ventral fringe of 7 or 8 stout bristles on both anterior and middle femora. Hind femur rather densely appressed setate on all surfaces except medial, and bearing 3 fine, bristly hairs medially at the apex, 1 stout bristle dorsomedially, some distance from the apex, 4 lateral bristles, also 3 ventrolateral on the basal half, and at the base ventrally a cluster of 3 quite long and 1 adjacent medial bristle, and 3 other ventral bristles near the middle. The hind tibia bears 1 dorsal, 3 dorsolateral, 2 ventrolateral on the outer half, and a dense brush of setae medially beginning near the base; apex with 1 dorsal, 2 lateral, and 4 ventral bristles. Middle femur with 3 stout anterior, 3 stout ventrolateral, and 7 ventral bristles. Middle tibia with 2 weak dorsal, 2 anterodorsal, 3 long, slender posterior, and 2 exceptionally stout, ventral bristles restricted to the outer half; also there are 6 spinous, ventral bristles. Anterior femur with 8 long, ventral, tuberculate bristles; this tibia has 2 weak dorsal, 1 stout posterior at the apical third, and 1 medial brush of setae beginning above the middle; apical circlet of 10 bristles. Tarsi have long pulvilli and empodium, and stout, only moderately sharp claws bent rectangularly near the apex.

Wings: The wings are subhyaline and the apical third and posterior border villose. Marginal cell closed and stalked; the anterior branch of the third vein ends at wing apex or slightly above; second submarginal cell narrowed in the middle by expansion of the first posterior cell; second posterior cell strongly swollen at base; fourth posterior cell closed and stalked; anal cell closed, second basal cell ends in two veins; lower end vein of discal cell drawn backward and nearly parallel with anterior margin of discal cell. The marginal cell is rippled basally but not expanded; alula large, ambient vein complete.

Abdomen: The abdomen is cylindrical and tapered, as long as the wings; first tergite laterally swollen, weakly ridged. Pile of abdomen abundant, flat appressed and setate; sternal pile scattered, long, erect, with additional, appressed setae. All the tergites have bristles, which become weak beyond the fourth tergite. First tergite laterally with 4 long, stout bristles and other stiff, bristly hairs. Second tergite with 3 or 4 weak bristles submarginally on the posterior margin and additional, bristly hairs and long, bristly pile in the middle laterally. Third tergite with 4 stout bristles in a similar position and with a sublateral row of scarcely less stout bristles. Fourth tergite with 5 or 6 moderately strong, posterior bristles and 8 to 10 lateral bristles. Remaining tergites with weak bristles. Basal sternites with some long, bristly hairs and on the sides of the third sternite a lateral cluster of 10 to 12 stout, long bristles; fourth sternite with a similar, lateral cluster of weaker bristles; eighth sternite with posterior fringe of about 7 moderately stout bristles. Males with eight tergites, the seventh with deeply creased and inset, posterior margin and reduced length medially; eighth tergite a fifth as long as the sixth in its medial length, but also longer laterally and likewise with inset, dorsal posterior rim. Male terminalia quite large and conspicuous and the superior forceps much longer than other elements, with processes; gonopod short, blunt and convex; the hypandrium varies from short to quite long, broad and extensive. Proctiger long, broad, flat, protruded and oblique. The female terminalia consist of the exceptionally short, cylindrical eighth segment and much smaller, subcylindrical ninth and tenth segments. In some species all three segments may be enclosed by a screen of long, stout bristles originating on the postmargin of the seventh tergite and sternite.

Distribution: Palaearctic: *Orophotus mandarinus* Bromley (1928); *sinensis* Ricardo (1919); *yenpingensis* Bromley (1928).

Oriental: *Orophotus chrysogaster* Becker (1925); *fulvidus* Becker (1925); *montanus* Ricardo (1922); *univittatus* Becker (1925).

Genus *Strophipogon* Hull

FIGURES 384, 785, 1551, 1559, 2180, 2241

Strophipogon Hull, Bull. Brooklyn Ent. Soc., vol. 53, no. 4, p. 94, 1958. Type of genus: *Strophipogon bromleyi* Hull, by original designation.

Flies of medium size, characterized by the quite narrow face, the remarkable antenna in which the third antennal segment is exceptionally slender and long and with a very short style. The tibial bristles are reduced and the wing has the posterior branch of the third vein strongly undulate or wavy. Length 15 mm.

Head, lateral aspect: The head is comparatively short and convex anteriorly, although the medial portion of the eye is rather flattened. The face is plane with the eye except on the lower third, which extends a little forward but is mostly evident because of the ventral recession of the eye. Cheeks are short. Occiput very poorly developed in profile with scattered, coarse hairs below and slender, bristly hairs along the middle and 2 or 3 quite weak, proclinate bristles behind each upper eye corner. Proboscis comparatively slender, extending well beyond the face and held obliquely downward. The palpus is minute, slender, and cylindrical, with a few, bristly hairs at the apex. The antenna set near the upper fourth of the head but actually quite close to the vertex, since the eye rises prominently above the ocelli. The first segment is slender, not quite twice as long as the second, and both of these segments bear short setae above and long setae below. The third segment at its base is slightly more narrow than the second segment, it is gradually reduced in width near the base, is of uniform width over most of its length and on the outer fourth becomes even more narrow and only about twice as wide as the very short style. The third segment, style included, is at least three times the combined length of the first two, the style bears at the base a small microsegment and at the apex a short bristle.

Head, anterior aspect: The width of the head is about 1½ times the height. The face below the antenna is exceptionally narrow and approximately a twelfth the head width. Ventrally the face is strongly widened, still wider at the bottom of the subepistoma. The surface has coarse, appressed, flattened micropubescence. It is without pile and the mystax is composed of a lateral, vertical row of 4 quite slender, long bristles besides 2 or 3 equally long hairs extending down beside the subepistoma. In the middle the face gibbosity bears about 10 rather stouter, equally long, whitish bristles. The very small, short front is reddish pollinose, very slightly wider than the upper face; the anterior portion of the vertex is slightly narrowed and becomes more widely divergent behind, and also more deeply excavated. The small, low ocellarium is set rather far forward and bears behind the ocelli a pair of small, erect setae. Anterior eye facets strongly enlarged along the facial margin.

Thorax: The thorax is high and rather short, the mesonotum is comparatively high and arched, abrupt and convex anteriorly, and more gently arched behind. It is almost bare, with a patch of 10 or 12 fine, acrostical hairs and with dorsocentral bristles well developed in the middle of the mesonotum. Each row contains 4 or 5 bristles, mostly long and slender. The lateral bristles are stouter, quite long, finely attenuate. The notopleuron bears 2 bristles; there are 4 supraalar, 2 on the postalar callosity, with the posterior element especially conspicuous, and 1 long, conspicuous pair on the scutellar margin. The scutellum is only moderately thick, posteriorly convex with impressed rim. Lateral metanotal callosity emarginate behind and bearing bristly pile. Propleuron with slender bristles. The mesopleuron, however, with a few fine, posterior hairs, the pteropleuron with some bristly pile, the metapleuron with a vertical row of 5 or 6 slender, pale bristles, some bristly hairs in front and a single similar bristle on the hypopleuron, another on the posterior coxa. The postmetacoxal area is membranous, the lateral and ventral metasternum long pilose, the prosternum fused laterally.

Legs: The anterior and middle femora are slightly swollen along the base and before the middle. The hind femur is stout, especially beyond the middle, which is a little dorsally swollen, with the lower surface plane. The femora bear fine, subappressed setae and rather conspicuous bristles. The hind femur has 5 dorsolateral bristles, with the last distal element subapical and matched by a dorsomedial bristle. It also has 4 ventral bristles, 3 of which are stout, and 2 or 3 ventral medial bristles with the middle element stout. Hind tibia quite slender and long, with a conspicuous, stout, basal, dorsolateral bristle; there is another bristle beyond the middle and another ventrolateral on the apical fourth; it has only 1 or 2 weak dorsomedial bristles but the medial brush of setae extends nearly to the base; apex with only 3 or 4 bristles. Middle femur with 4 quite stout, anterior bristles, 9 conspicuous and stout, anteroventral bristles, longer on the basal half, and 3 or 4 stout ventral bristles on the basal half. Posteriorly there are 1 or 2 short bristles on the outer half. Middle tibia with only 2 stout bristles; these are short, ventral and distal, although at the apex posteriorly there is a conspicuous, long bristle, besides other shorter bristles. Anterior femur with conspicuous bristles only on the ventral surface. There are 5 or 6 such on the basal half. Anterior tibia bears at the base a short, anterodorsal bristle, at the middle an equally weak, posterodorsal bristle and before the middle there is a remarkably long, moderately stout, posteroventral bristle, which though rising almost at the basal third extends obliquely to the apex of the tibia. There is a shorter bristle in this row lying beyond. Claws moderately stout, strongly bent at the apex and sharp. Pulvillus long, the empodium slender and a little thickened at the base.

Wings: The wings are brownish hyaline with dense villi, except on the basal cells. Marginal cell is closed, rather wide apically, with a comparatively short stalk. The second submarginal cell basally is widened only in front of the third vein and the posterior branch of the third vein at the middle has a very strong bend or undulation. Upper portion of the anterior and intercalary veins quite short, the long medial crossvein parallels the wing margin. Posterior crossvein absent, alula large, ambient vein complete.

Abdomen: The abodmen is comparatively short, subcylindrical above, flattened below and not as wide as the mesonotum. The surface bears fine, scattered, appressed setae and the subapical margin of the tergites have conspicuous fringes of long, pale, quite slender bristles or bristly hairs. Sides of first tergite with at least 4 long, stout bristles and other long, bristly hairs. First segment short, second long, the remaining segments progressively reduced and the eighth male tergite and sternite quite short, almost linear. Male terminalia rather conspicuous and elongate, not rotate, the superior forceps are not strongly divergent, and the proctiger small and oblique, and compressed laterally with a fringe of bristly setae. The forceps have a strong, long, hooklike prong or process posteriorly, another dorsally near the middle and both cross the midline. Gonopod prominent. Hypandrium well developed laterally but greatly reduced ventrally so that the penis guides are fully exposed below and arched forward and upward.

Distribution: Oriental: *Strophipogon bromleyi* Hull (1958).

Genus *Negasilus* Curran

Figures 386, 766, 1477, 1486, 2238, 2245, 2392, 2397

Negasilus Curran, Families and genera of North American Diptera, pp. 183, 184, 1934. Type of genus: *Negasilus belli* Curran, 1934, by original designation.

Small flies without conspicuous bristles on the sides of the tergites, except the first, where they are prominent. The face is almost as short as in *Cerdistus* Loew and *Negasilus* appears to find its true relationship with that genus. The sternites have only scanty, short, fine, appressed setae with no long hairs or bristles present. From related genera and from *Asilus* Linné it differs in the absence of scutellar bristles. The ovipositor tends to be cylindrical and conical, compressed only on the ninth segment. Length 12 to 15 mm.

Head, lateral aspect: The head is of medium length, the face quite short on the upper half, with on the lower portion a short, inconspicuous gibbosity which is rendered more prominent because of the recession of the eye. The occiput is short, but uniformly developed; the ventral fourth of the eye has a pronounced, angular, anterior recession. The proboscis is short and robust and scarcely or not at all extended beyond the face. The apex is bluntly rounded; the base below has numerous, slender, bristly hairs. The pile of the occiput is fine and dense on the lower third, with a conspicuous, long, dense tuft on each side behind the proboscis. Bristles begin at the middle of the head; the lower elements are turned down, the upper elements are stout and continued along the lateral slopes of the postvertex. Palpus small with fine, apical, bristly hairs. The antenna is attached a little below the upper third with the first two segments short; and the first segment longer. The third segment is gradually and slightly dilated through the middle, more attenuate distally and bears a short, distinct microsegment and a short, stout, attenuate, spine-tipped style no longer than the first antennal segment.

Head, anterior aspect: The face below the antenna is about a fifth the head width and only slightly divergent below; the surface is pubescent and apilose. There is a triangle of prominent, stout, mostly pale bristles situated in the middle of the lower half of the face and a row of 4 stout bristles continued down the sides of the concave, pubescent subepistoma. The cheeks are moderately large, nearly bare. Front pollinose, divergent; the vertex is slightly more narrow than the face, only a little excavated anterodorsally, but with a very deep, wide channel behind the low ocellarium. The ocellarium bears 2 pairs of short bristles between the ocelli and 2 pairs behind. Sides of front with both upper ocular and lower subocular rows of stout bristles.

Thorax: The mesonotum is rather high and anteriorly abrupt with numerous, short, sharp, appressed, unusually stout setae, the whole surface pollinose. Acrostical elements are undifferentiated; the dorsocentral elements present only on posterior half with 5 pairs of long bristles. Humerus with fine pile, the lateral complement of bristles consists of 2 stout notopleural, 1 supraalar, 1 postsupraalar, 2 postalar, and no scutellar bristles. Scutellum thick, convex, with impressed rim and a few, short, marginal and distal setae and a few fine hairs. Pleuron pollinose; mesopleuron almost without pile but with 2 or 3 hairs in the posterior corner; 1 or 2 very fine hairs are present on the posterior basalare. Pronotum with bristles; upper sternopleuron and pteropleuron with a few hairs, posterior hypopleuron and metapleuron with from 1 to 2 stout bristles and a few fine hairs. Metasternum pilose; postmetacoxal area membranous; metanotal callosity bristly pilose; prosternum fused, but reduced posterolaterally.

Legs: The femora are stout, the first 4 a little swollen; the pile on the femora and tibiae is dense, flat appressed and setate, including the ventral surfaces. Bristles are numerous, stout, and rather blunt. Hind femur with 3 dorsolateral, including the subapex, 1 medial at the subapex and 1 on each side at the apex; also 3 or 4 ventromedial and a like number of ventrolateral bristles. Trochanters with bristles. Middle femur with 2 anterior, 3 anteroventral, 3 basal ventral, and 3 at the apex, 2 being posterior. Anterior femur with a pair of subapical, dorsal bristles, 1 at the apex on each side and 4 ventral bristles on the basal half. Anterior and midcoxal frontal bristles numerous. Hind tibia with a stout, prominent, dorsomedial bristle near the middle, a dorsolateral at the base, 2 lateral bristles along the middle, and below them 2 ventrolateral bristles. Apex with 7 bristles. Anterior 4 tibiae similar; the posteroventral bristles of each are considerably longer and attenuate. Claws slender, sharp, the pulvilli and empodium long.

Wings: The wings are rather short and broad; the third vein forks before the posterior cross vein or opposite; the fourth posterior cell is closed with a long stalk. The anal cell is closed in the margin, or with a short stalk. The alula large, triangular, the ambient vein complete. The second submarginal cell is widened above and below its origin. Nearly the whole wing is villose.

Abdomen: The abdomen is comparatively short and robust; the second tergite at base is nearly as wide as the mesonotum. Sides of first tergite with 6 pairs of bristles; pile of abdomen scanty, fine appressed and setate, not longer on the sides. The postlateral margin of the second and remaining tergites have very slightly lengthened setae; surface pollinose. Seven tergites are visible above in the male, a trace of the eighth visible laterally. Female with seven tergites before the ovipositor. Male terminalia of moderate size, with long, superior forceps which converge and overlap at apex and long, erect, dorsal proctiger. The gonopod is two-thirds as long as the forceps; the hypandrium is large, broad, the eighth sternite short and transverse; the aedeagus has three prongs. The whole ventral cavity of the terminalia is exposed. Female with a small, conical and cylindrical ovipositor; the eighth segment is about as long as the preceding seventh or a little longer; the ninth is laterally compressed and half as long as the preceding; the terminal proctiger bears fine pile, is not quite as long as the ninth.

Distribution: Nearctic: *Negasilus belli* Curran (1934).

Genus *Nigrasilus* Hine

Figures 2531, 2533

Nigrasilus Hine, Canadian Ent., vol. 40, p. 203, 1908. Type of genus: *Nigrasilus nitidifacies* Hine, 1908, by original designation.

I give below Hine's description:

> Front and face of ordinary width, face widest below. Facial gibbosity rather prominent and with numerous bristles. Third segment of the antenna rather narrow, and a little longer than the first two together, arista only about half as long as its segment. Thorax with bristles on the posterior part and several bristles on the margin of the scutellum. Wing venation as in *Asilus* in the restricted sense. Posterior margins of the abdominal segments without bristles that differ in length from those on other parts of the abdomen. Female genitalia plainly conical; male appendages plainly bent upward near the middle of the length.

Distribution: Nearctic: *Nigrasilus nitidifacies* Hine (1908).

Addendum

The present work was completed in August 1957, but I have added those genera, by various authors, that have appeared since that time and have come to my notice. Here I take note below of additional synonymy, not previously mentioned in the text, and add three genera. Finally, I include a diagram expressing the relationships and comparative development of the Asilids by tribe and subfamily.

New synonymy

Blasdale (1957) in a commendable paper on the *Philodicus* species of Sudan and South Africa describes several new species and establishes a number of new synonyms drawn from several genera related to and hitherto confused at times with *Philodicus* Loew. Blasdale's new species are: *Philodicus alcimoides*, for *fraternus* Curran, not Wiedemann; *pallidus*, *virolensis*, *palustris*, *flavipes*, *robustus*, *furunculus;* of these *virolensis*, *palustris*, *robustus* and *furunculus* are from the Sudan. The synonymy that Blasdale proposes is drawn in part from species hitherto included under *Alcimus* and *Promachus*, and consequently alters the faunal list for those genera in this work.

Under synonymy of *Philodicus fraternus* Wiedemann, 1819, which Blasdale transfers from *Alcimus*, he places *Alcimus limbatus* Macquart, 1838, and *Promachus turinus* Walker, 1849.

Under synonymy of *Philodicus temerarius* Walker, 1851, which he transfers from *Promachus*, he places *Philodicus obscuripes* Loew, 1858, *Alcimus aethiopicus* Bigot, 1891, *Rhadiurgus notatus* Bigot, 1891, *Philodicus walkeri* Ricardo, 1921, and *Alcimus biseriatus* Curran, 1927.

Blasdale transfers to *Philodicus* the species *Promachus fraterculus* Walker, 1855, *Alcimus doris* Curran, 1927, and *Alcimus ludens* Wiedemann, 1828.

Ricardo, 1912, places the following Walker species of *Promachus* in synonymy under *Philodicus javanus* Wiedemann: *confinis* Walker, 1855, *gobares* Walker, 1849, *inserens* Walker, 1857, *sagittifer* Walker, 1851, and *telifer* Walker, 1851.

Genus *Templasilus* Peris

Templasilus Peris, Eos, vol. 33, p. 275, 1957. Type of genus: *Asilus bolivari* Arias, 1912, by original designation.

The following is Peris' description in translation:

Head: The head has the facial prominence not well developed; the face uniformly gray pruinose; upper occipital bristles stout and erect, not curved; third antennal segment of a quite regular or average oval form.

Thorax: The mesonotum uniformly covered with short bristles; dorsocentral bristles not extending beyond the transverse suture. Prominence of the metanotum bristly. Scutellum with six or more marginal bristles.

Abdomen: Somewhat flattened and black with whitish gray pruinose spots upon the postero-lateral border of the tergites. Tergites with distinct lateral discal bristles. All the segments with the same coloration and pile until one reaches those which form the genitalia.

Wings: Rather strongly smoky and with the fifth vein always ending posterior to the apex of the wing. Male with superior forceps simple, without teeth or openings (*ni escotaduras*). Female with the ovipositor not compressed, and the segments short and free, almost conical and bristly with minute spiny setae. Coloration generally obscure and reddish black.

The author has tentatively noted a species of this genus among unidentified material from South Africa.

Distribution: Palaearctic: *Templasilus bolivari* Arias (1912).

Genus *Seabramyia* Carrera

Seabramyia Carrera, Arq. Zool. São Paulo, vol. 11, p. 147, 1958. Type of genus: *Seabramyia tijucana* Carrera, 1958, by original designation.

The following is Carrera's description in translation:

Head: The head is as in *Holeoecphala* in its general conformation, but the front without pile, a little more extensive; the space between the ocellar callosity and the base of the antennae must be a little more extensive; ocellar callosity with a pair of bristles; face plain and without a transverse furrow or sulcus above the oral border. Mystax with many bristles but they do not extend beyond the lower third of the face. Proboscis and palpus similar to *Holeocephala* but the palpus seems to be barely shorter. Antennae with the two first segments of the same extent and with small bristles. The third segment not twice as long as the extent of the two basal segments united but it is wider in the apical half; at the apex dorsally, it has a few tiny hairs; style formed by two articulations or segments and with shining terminal spines.

Thorax: Prosternum isolated from the pronotum and formed by the two sclerites between the anterior coxae. Mesonotum rather convex, with lateral bristles and dorsal centrals highly developed, principally behind the suture. Scutellum smooth above and with marginal bristles; pleuron with pile which is more abundant on the mesopleuron where one finds posterior bristles developed.

Legs: Femora not swollen and the posterior tibia thicker or wider in the apical half.

Wings: Narrow and long, the anal cell furnished with a long petiole.

Abdomen: With seven segments before the genitalia. In the male segments 4, 5, and 6 are a little wider (*largos*). In females the sides of the segments are parallel and segments 6 and 7 narrowing and somewhat attenuate, after which is the ovipositor, which is quite short. Terminalia of the male small, the aedeagus being very short, differing from what one finds in the species of *Holcocephala* where this organ with its part has the shape or form of a lyre.

Distribution: Neotropical: *Seabramyia tijucana* Carrera (1958).

Genus *Alvarenga* Carrera

Alvarenga Carrera, Arq. Zool. São Paulo, vol. 11, p. 159, 1958. Type of genus: *Alvarenga icarius* Carrera, 1958, by original designation.

The following is Carrera's description in translation:

Head: Head as wide as the width of the thorax and densely covered with hairy pile; eyes bare (*nus*); surface of face slightly convex or rounded on all of its extent (*levemente bojuda*) and covered with long pile uniformly from the base of the antenna to the oral border and therefore not having a differentiated mystax. Front of the same width as the face, somewhat or scarcely narrowed at the base of the antennae, and as wide as ¾ of the maximum width of an eye. Ocellar callosity with abundant long pile and some bristles. Occiput clothed with pile, hairy and thick; proboscis short, conical, with the apex slightly curved downward; palpus with bristles, the second segment fusiform and with apical extremities prolonged into a short neck (*gargalo*). Antennae apparently with five segments, the last of which bears a minute dorsoapical spine, the two last segments forming a style, united, as long as half the extent of the third segment; the latter is twice as big as the first segment whose extent equals ¾ the size of the second segment.

The first division of the style (the fourth of the antenna) is small and triangular in form; the following segment is large and wide and of laterally compressed form and concave on its external base.

Thorax: The thorax with the pronotum rather well developed and pilose; prosternum formed by two small sclerites; mesonotum rather convex and covered with pile; more or less of this hair extends to the upper part of the mesopleuron; bristles little differentiated from the pile of the mesonotum, except as presuturals which are very shiny (*muito nitidas*). Scutellum with fine, numerous bristles; post-scutellar region without hair on the lateral callosity. Metapleuron with a tuft of fine long pile.

Legs: Of normal size and thickness and abundant pile; the bristles are well developed; apex of anterior tibia with a rather large curving spine; pulvilli and empodium will developed.

Wings: Rather narrow with five posterior cells; fourth posterior cell open; anal cell open or closed in the margin of the wings.

Abdomen: Inclined downward and resembling in a certain way the species of Cyrtidae of the genus *Philopota*. Male with seven segments visible (*visiveis*) before the genitalia, and the seventh (*embora o setimo seja bastante pequeno*) rather small. Abdomen of the female with eight segments, eighth (*sendo o 8° bastante encoberto pelo 7°*); pilosity scarce (*escassa*), in the female, whose genitalia are more or less concealed beneath the eighth segment and so it is observed with difficulty to have a circlet of spines characteristic of the species of Saropogonini. Genitalia of the male small, the eighth tergite scarcely apparent, with a moon-shaped crescent under the body of the seventh; ninth tergite formed by a single unit (*peca*) but with a deep recess or cavity in the posterior margin, in such a way as to present two lateral prolongations which become more slender at the apex as though they were two spines, yet covered at the apex by dense pilosity; eighth sternite small, aedeagus of a tubular form, expanding at the extremity.

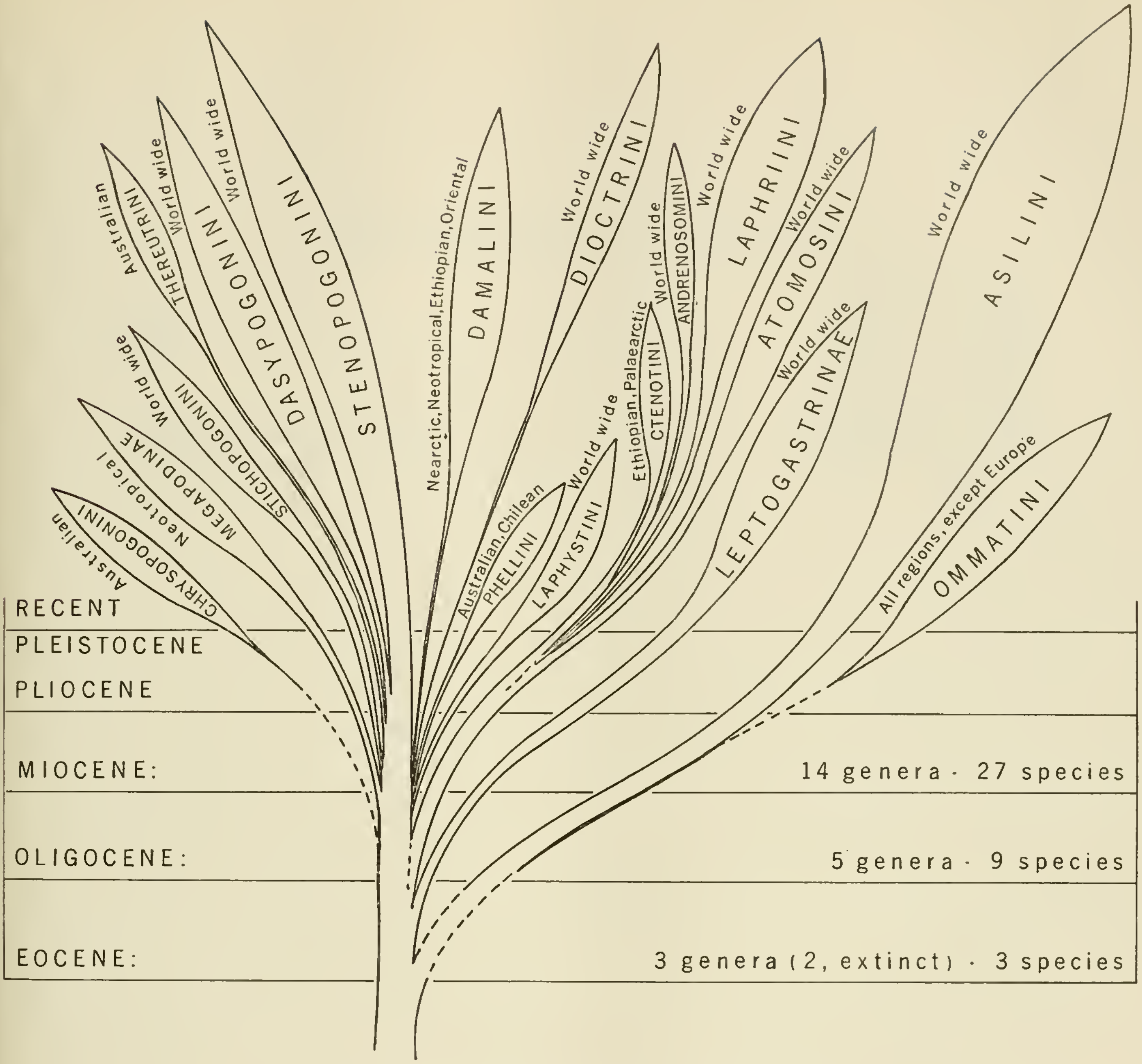
Distribution: Neotropical: *Alvarenga icarius* Carrera (1958).

Genus *Stenasilus* Carrera

Stenasilus Carrera, Arq. Zool. São Paulo, vol. 11, p. 167, 1958. Type of genus: *Asilus tenuis* Wiedemann, 1828, by original designation.

The following is Carrera's description in translation:

Head: Wider than thorax; face very narrow, slightly wider below, flat or plain, and with fine bristles, not longer in extent


Australian
THEREUTRINI
World wide
DASYPOGONINI
World wide
STENOPOGONINI
World wide
STICHOPOGONINI
Neotropical /
MEGAPODINAE
Australian
CHRYSOPOGONINI
Nearctic,Neotropical,Ethiopian,Oriental
DAMALINI
World wide
DIOCTRINI
Australian,Chilean
PHELLINI
World wide
LAPHYSTINI
Ethiopian,Palaearctic
CTENOTINI
World wide
ANDRENOSOMINI
World wide
LAPHRIINI
World wide
ATOMOSINI
World wide
LEPTOGASTRINAE
World wide
ASILINI
All regions, except Europe
OMMATINI
RECENT
PLEISTOCENE
PLIOCENE
MIOCENE:
OLIGOCENE:
EOCENE:
14 genera · 27 species
5 genera · 9 species
3 genera (2, extinct) · 3 species

TEXT-FIGURE 35.—A provisional philogenetic arrangement of the Asilidae.

than the face and situated from the base of the antennae to the oral border; front as wide as the face; ocellar callosity with a pair of bristles; proboscis cylindrical, small; palpus small, as long as one fourth the length of the antennae and with minute pile. Antennae with the first segments cylindrical, slightly larger than the second, third segment oval and as large as the first segment; arista a little longer than the basal segment of the antennae with a small shining segment or joint (*articulocão*) at the top of the proximal fifth.

Thorax: Mesonotum normally convex. Lateral bristles and dorsocentral bristles well developed; the bristles of the scutellar margin are fine; lateral callosity of postscutellar region with fine pile.

Legs: Slender with fine bristles not abundant nor very long. Claws sharp apically; pulvilli almost of the same size as the claws.

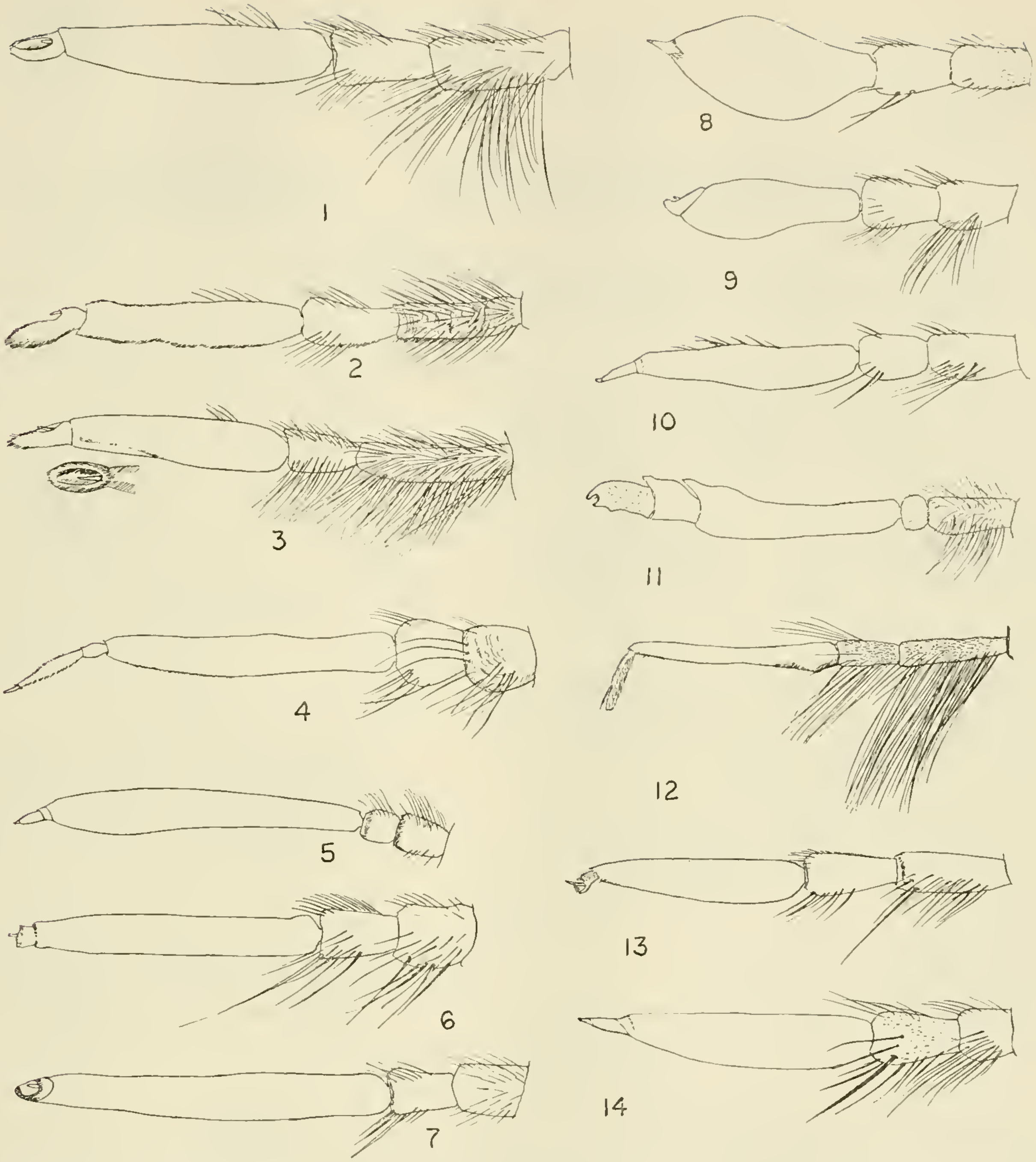
Wings: Rather shorter in extent than abdomen, and narrow; alula reduced.

Abdomen: Delicate (*fino*) and long cylindrical. The first and the second segments with very fine, elongate pile. In the remaining segments the pile is short; beginning with the third segment the posterior margins of the tergites are equipped with small bristles. Genitalia of the male set in the same direction as the abdomen without any angle formed, as large as the seventh segment; superior forceps with the triangular shape or form (*contorno*). Genitalia of the female laterally compressed, shining from the seventh segment; this segment and ovipositor together are as compressed as the extent of the combined fifth and sixth segments.

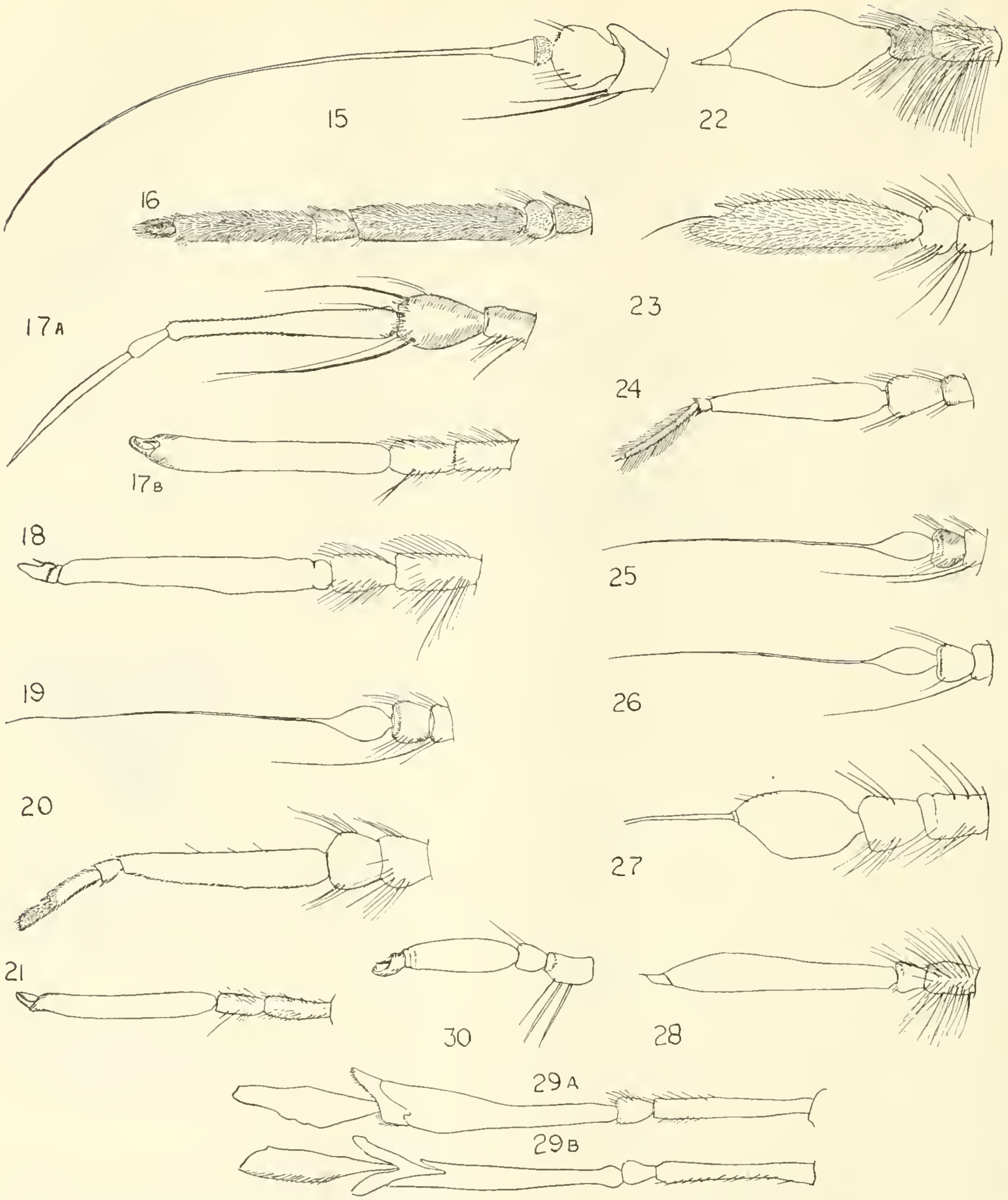
Distribution: Neotropical: *Stenasilus tenuis* Wiedemann (1828).

Illustrations of Asilidae

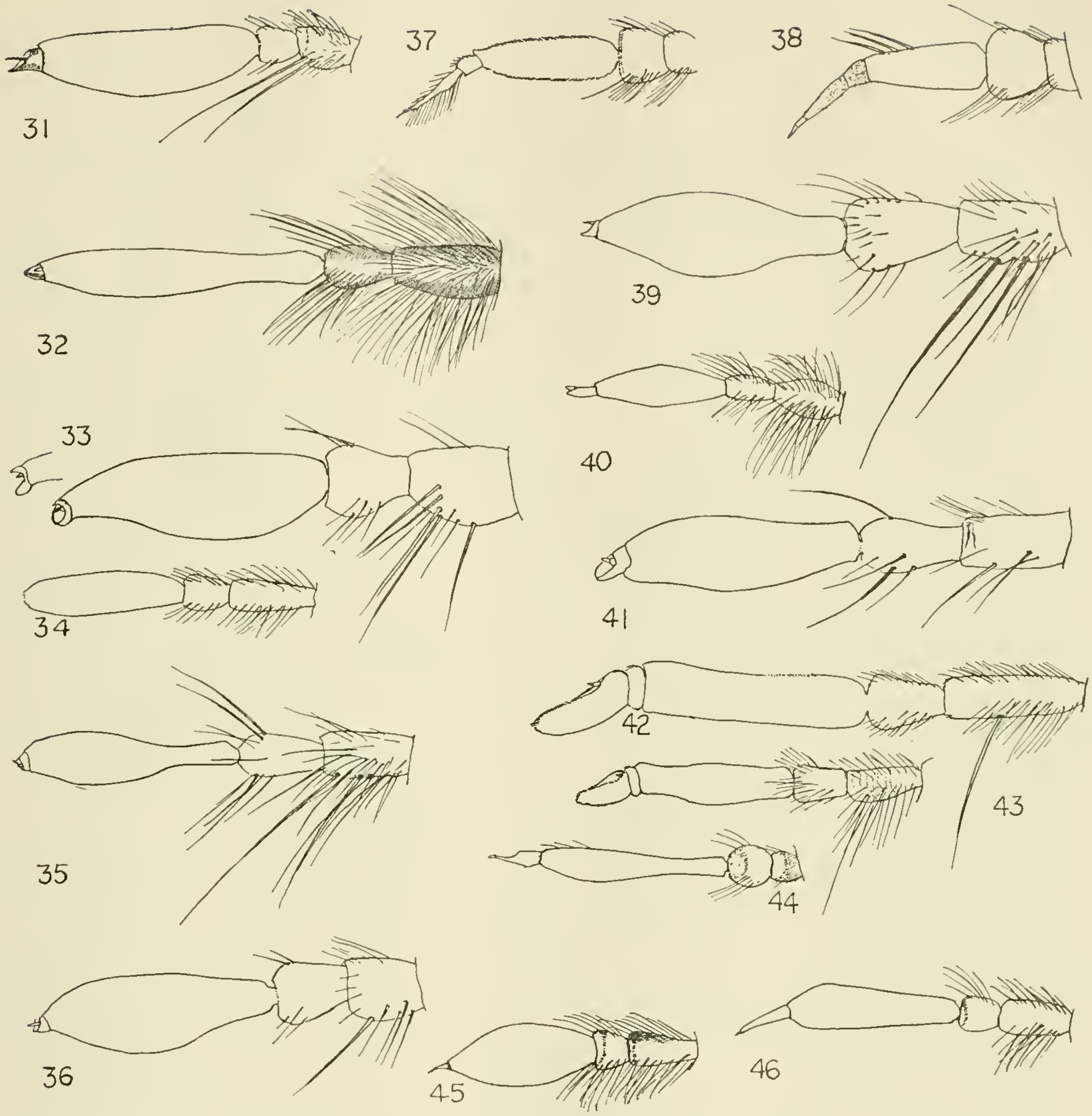
	Figures	*Pages*
Antennae	1– 396	601–624
Wings	397– 801	625–657
Heads	802–1560	658–743
	1614–1631	748–749
Legs	1561–1613	744–747
Genitalia and Associated Parts	1632–2505	750–809
Miscellaneous Drawings after Various Authors	2506–2536	810–812



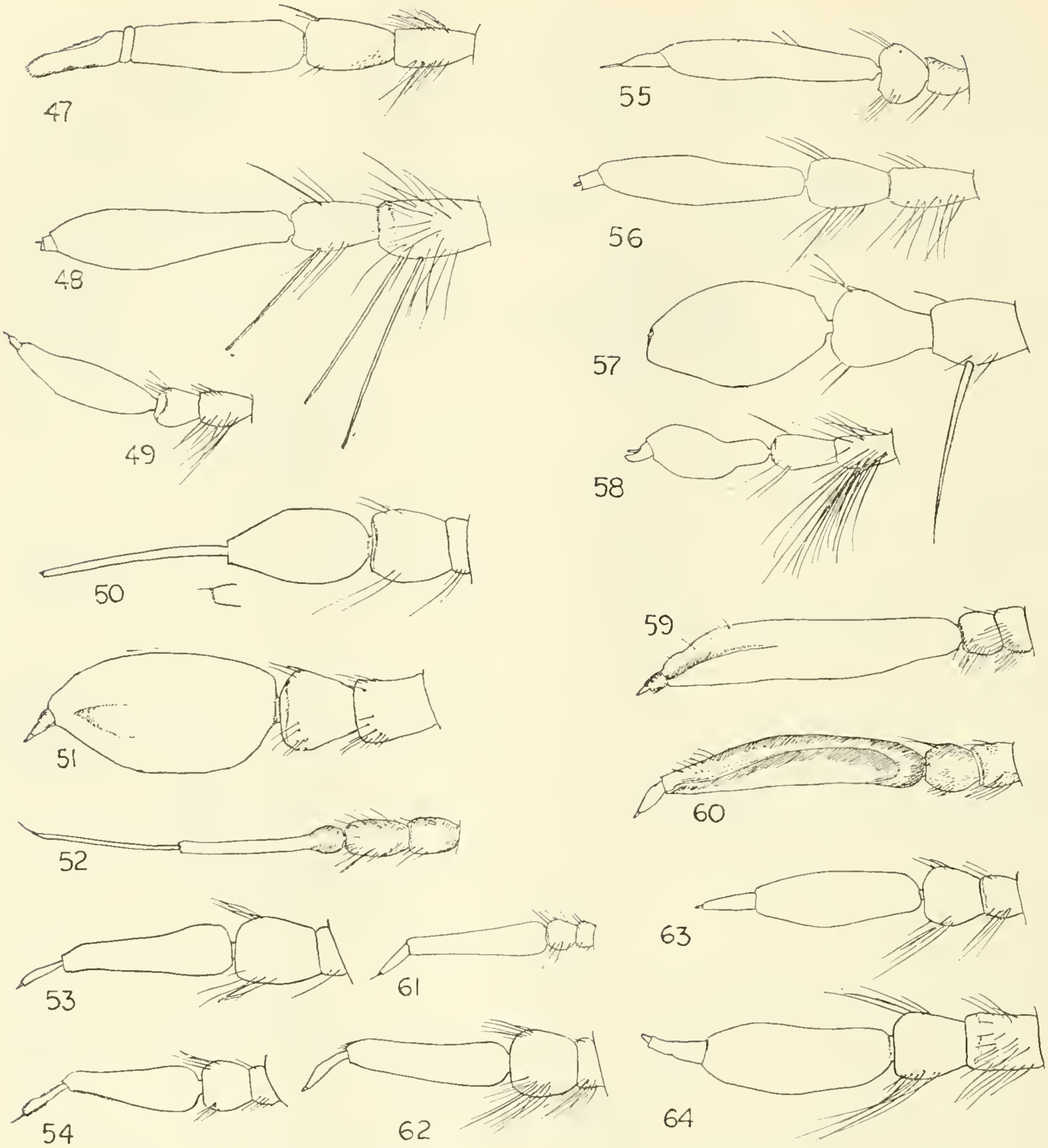
Figures 1–14.—1, *Ecthodopa pubera* Loew. 2, *Dioctria oelandica* Linné. 3, *Dicolonus simplex* Loew. 4, *Leptarthrus brevirostris* Meigen. 5, *Phellus glaucus* Walker. 6, *Chrysopogon albopunctatus* Macquart. 7, *Chrysopogon crabroniformis* Roeder. 8, *Opseostlengis* sp. 9, *Dioctria albius* Walker. 10, *Molobratia teutonus* Linné. 11, *Hermannella engeli*, new species. 12, *Broticosia rapax* Hull. 13, *Aplestobroma avida* Hull. 14, *Chrysopogon magnificus* Paramonov, in litt.



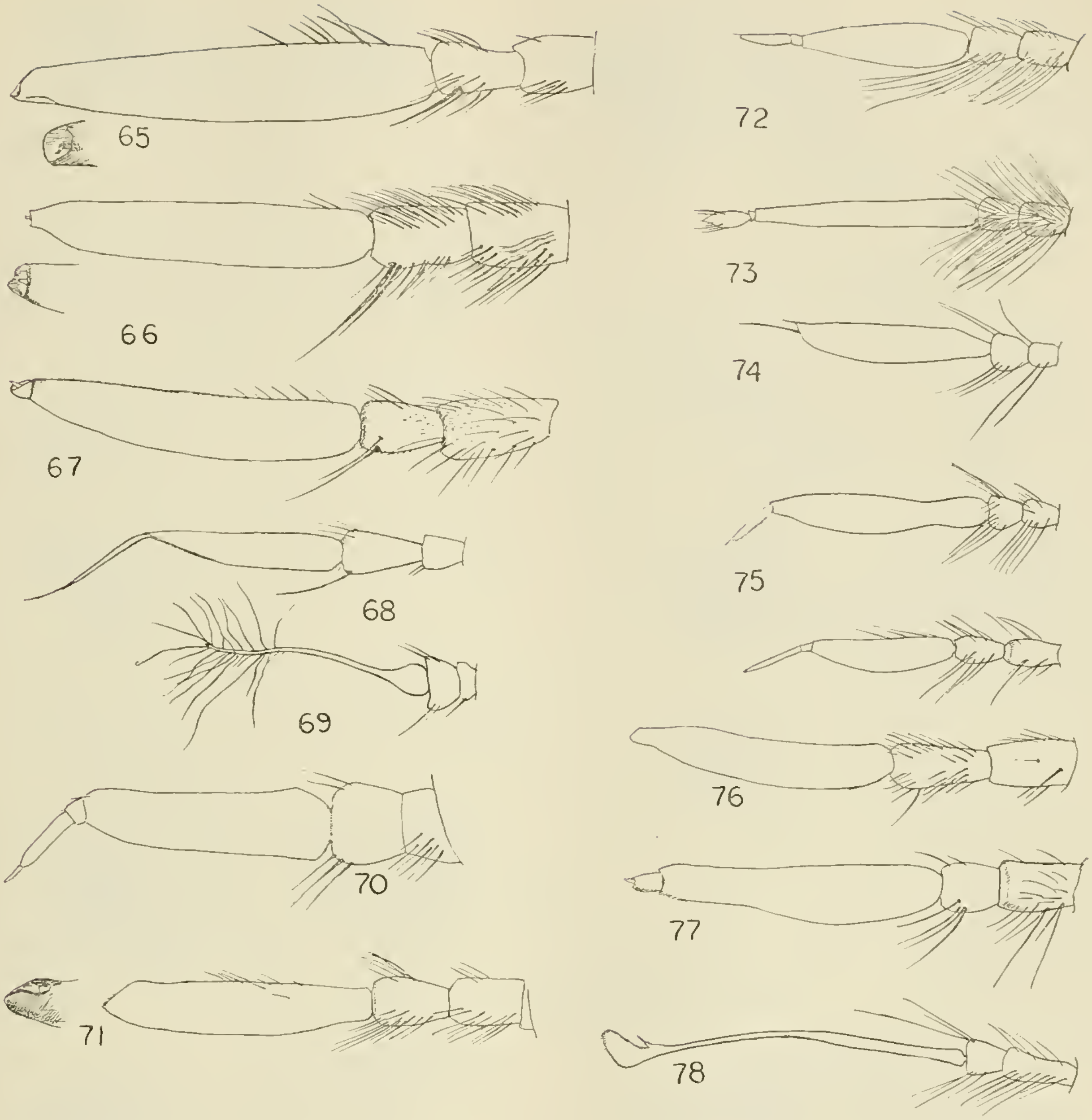
FIGURES 15–30.—15, *Aireina paradoxa* Frey. 16, *Margaritola mirabilis* Hull. 17A, *Oxynoton francoisi* Janssens; 17B, *Codula limbipennis* Macquart. 18, *Hoplotriclis pallasii* Wiedemann. 19, *Damalis femoralis* Ricardo. 20, *Rhipidocephala caffra* Macquart. 21, *Codula vespiformis* Thomson. 22, *Pritchardia hirtipes* Macquart. 23, *Damalina hirtipes* de Meijere. 24, *Paroxynoton tigrinum* Janssens. 25, *Lophurodamalis hirtiventris* Walker. 26, *Lasiodamalis heterocerus* Wiedemann. 27, *Orrhodops americanus* Curran. 28, *Obelophorus landbecki* Philippi. 29A, *Myelaphus dispar* Loew; 29B, *Myelaphus dispar* Loew. 30, *Laphystia sabulicola* Loew.



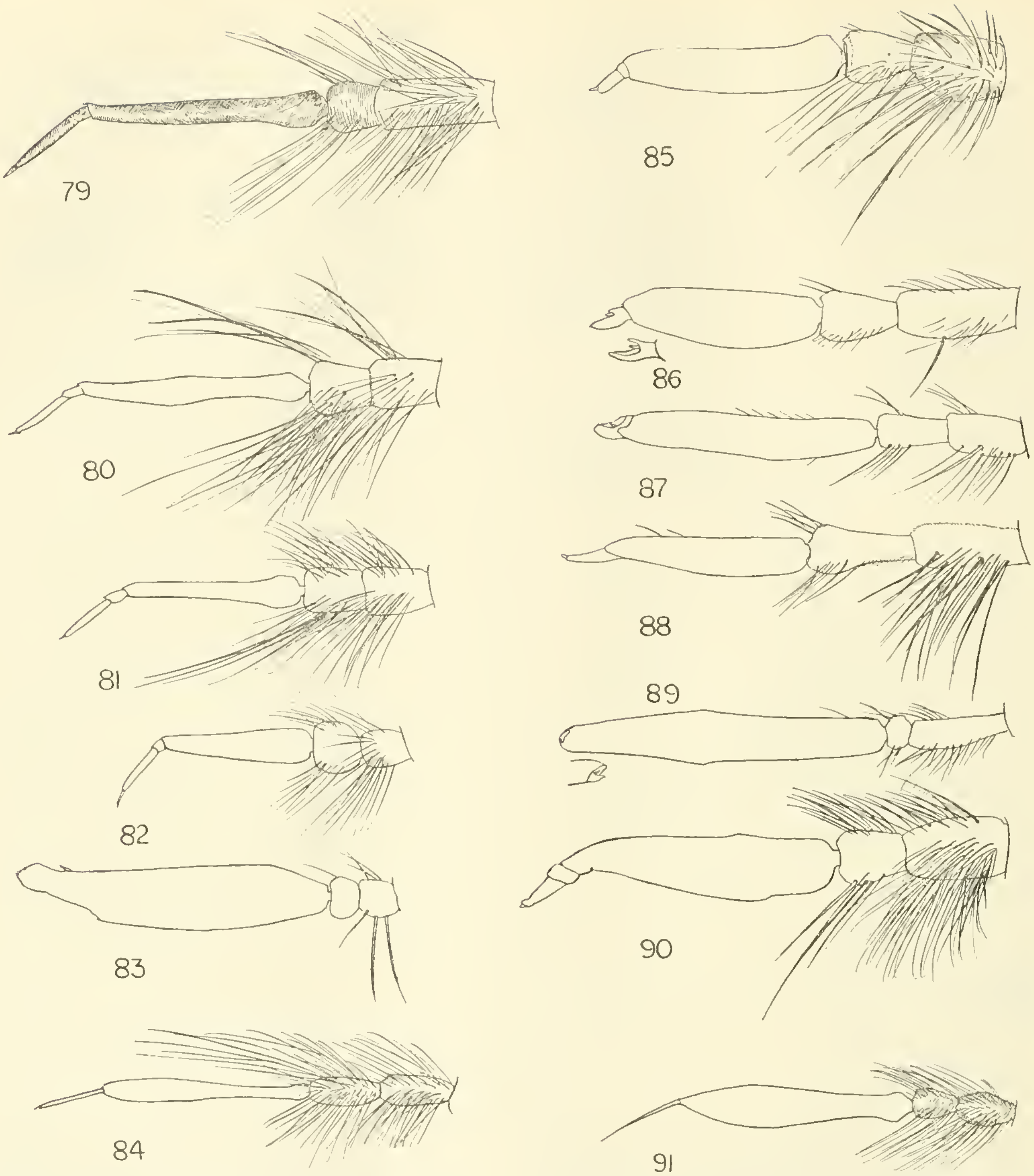
Figures 31–46.—31, *Glyphotriclis ornatus* Schiner. 32, *Hexameritia tricolor* Schiner. 33, *Saucropogon transvaalensis* Ricardo. 34, *Gerrolasius meridionalis* Hermann. 35, *Apoxyria apicata* Schiner. 36, *Trichardis testacea* Hermann. 37, *Rhipidocephala morio* Hermann. 38, *Haplopogon erinus* Pritchard. 39, *Helolaphyctis* sp. 40, *Triclis olivaceus* Loew. 41, *Triclioscelis perfecta* Curran. 42, *Scytomedes haemorrhoidalis* Fabricius. 43, *Acrochordomerus aeneus* Hermann. 44, *Holcocephala scopifer* Schiner. 45, *Pritchardia puella* Bromley. 46, *Psilozona albitarsis* Ricardo.



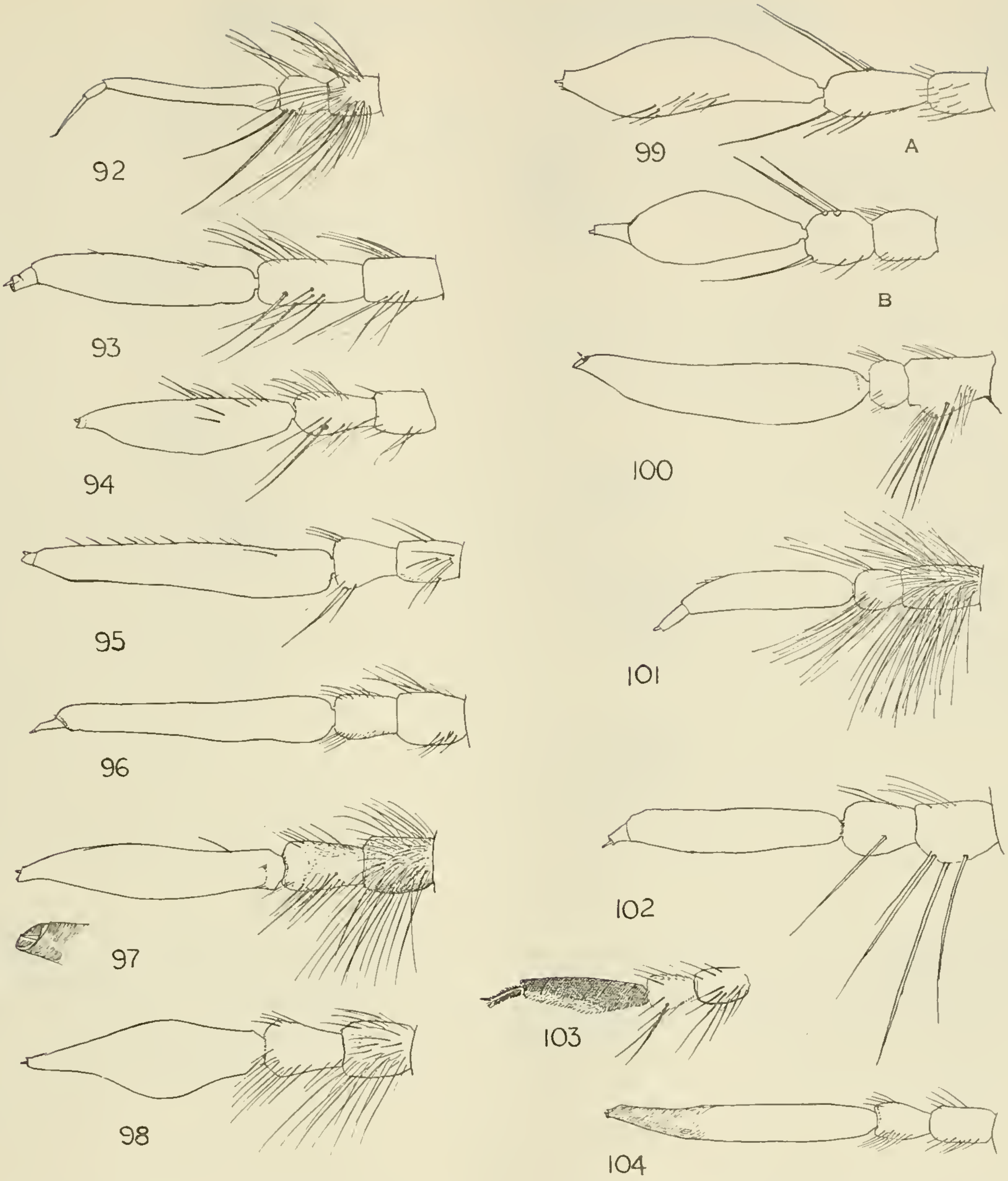
FIGURES 47–64.—47, *Torebroma gymnops* Hull. 48, *Trichardis nigrescens* Ricardo. 49, *Spanurus tellinii* Bezzi. 50, *Lissoteles hermanni* Bezzi. 51, *Willistonina bilineata* Williston. 52, *Rhadinus megalonix* Loew. 53, *Stichopogon elegantulus* Wiedemann. 54, *Townsendia minuta* Williston. 55, *Holcocephala abdominalis* Say. 56, *Bohartia bromleyi* Hull. 57, *Psilocurus nudiusculus* Loew. 58, *Zabrops tagax* Williston. 59, *Clinopogon* sp. 60, *Clinopogon* sp. 61, *Stichopogon* (*Cryptopogon*) *vernaculus* White. 62, *Stichopogon* (*Dichropogon*) *schineri* Koch. 63, *Lasiopogon* (*Alexiopogon*) *terricola* Johnson. 64, *Lasiopogon monticola* Melander.



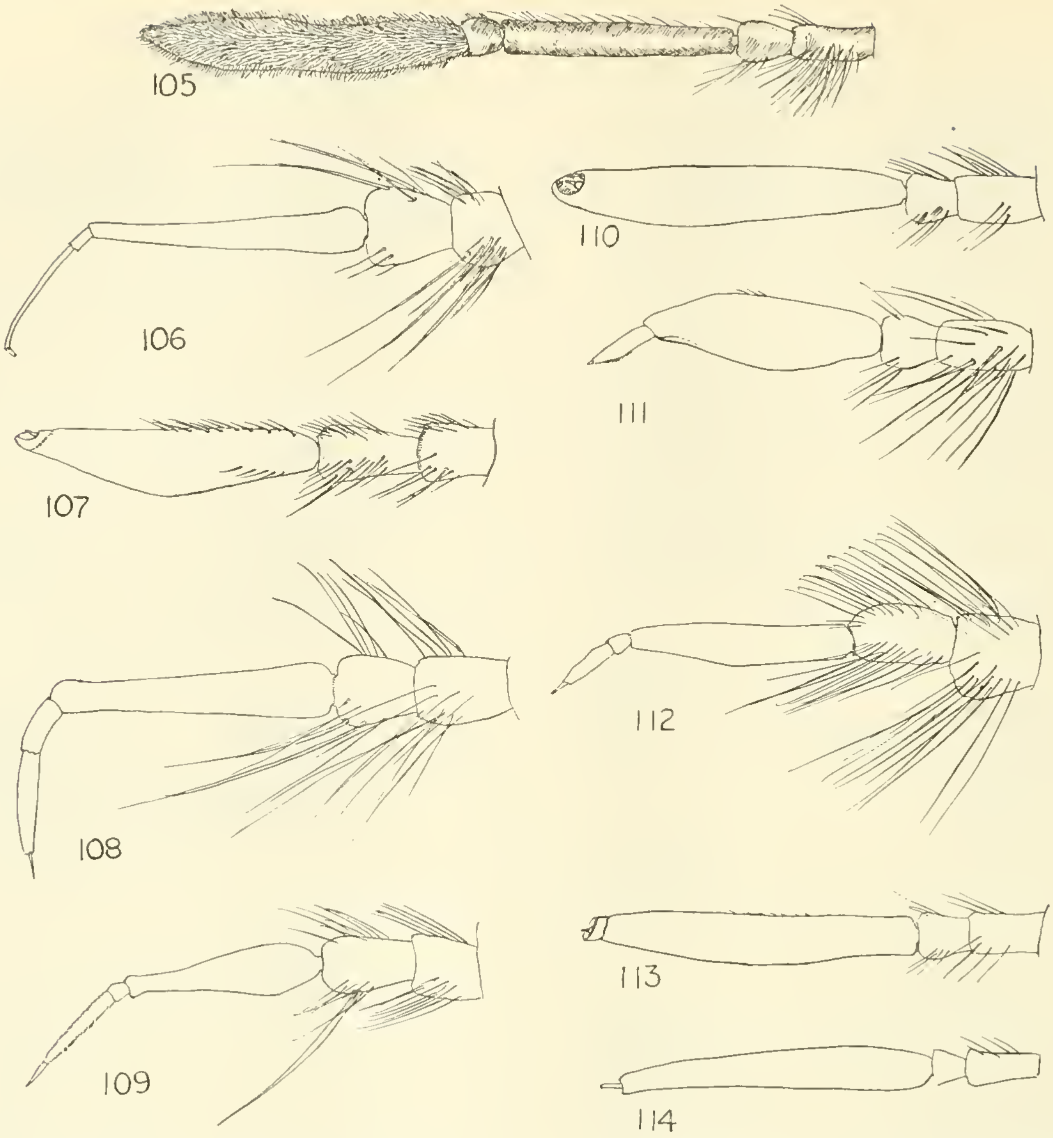
Figures 65–78.—65, *Phonicocleptes busiris* Lynch Arribálzaga. 66, *Dakinomyia froggattii* Dakin and Fordham. 67, *Brachyrrhopala bella* White. 68, *Rhabdogaster maculipennis* Engel. 69, *Oligopogon pollinosus* Engel. 70, *Itolia maculata* Wilcox. 71, *Mirolestes facialis* Curran. 72, *Jothopogon leucomallus* Loew. 73, *Crobilocerus megilliformis* Loew. 74, *Trigonomima pennipes* Hermann. 75A, *Amphisbetetus dorsatus* Becker; 75B, *Plesiomma testaceum* Fabricius. 76, *Aczelia infumatus* Lynch Arribálzaga. 77, *Austrosaropogon* sp. 78, *Oldroydia hamata* Hull.



Figures 79–91.—79, *Toremyia scatophagoides* Walker. 80, *Grypoctonus* sp. 81, *Comantella fallei* Back. 82, *Wilcoxia* sp. 83, *Parataracticus rubidus* Cole. 84, *Anarolius jubatus* Loew. 85, *Oratostylum lepidum* Ricardo. 86, *Perasis sareptana* Hermann. 87, *Hoplistomerus nobilis* Macquart. 88, *Neoscleropogon* sp. 89, *Ospriocerus abdominalis* Loew. 90, *Callinicus calcaneus* Loew. 91, *Eriopogon laniger* Meigen.



Figures 92–104.—92, *Eucyrtopogon nebulo* Osten Sacken. 93, *Dasypogon diadema* Fabricius. 94, *Diogmites platypterus* Loew. 95, *Neosaropogon princeps* Macquart. 96, *Rachiopogon grantii* Newmann. 97, *Thereutria pulchripes* White. 98, *Metalaphria* sp. 99a, *Lagodias* sp., inverted; 99b, *Lagodias teratodes* Hermann, inverted. 100, *Ancylorrhynchus glaucius* Rossi. 101, *Dioctobroma flavoterminatus*, new species. 102, *Omninablautus arenosus* Pritchard. 103, *Harpagobroma fumosa*, new species. 104, *Neocyrtopogon bifasciatus* Ricardo.



FIGURES 105–114.—105, *Ceraturgus cruciatus* Say. 106, *Sisyrnodytes brevis* Macquart. 107, *Enigmomorpheus paradoxus* Hermann. 108, *Pycnopogon mixtus* Loew. 109, *Heteropogon ornatipes* Loew. 110, *Dizonias phoenicurus* Loew. 111, *Bathypogon asiliformis* Loew. 112, *Mecynopus pulverulentus* Engel. 113, *Tolmerolestes rubripes* Lynch Arribálzaga. 114, *Teratopus cyaneus* Fabricius.

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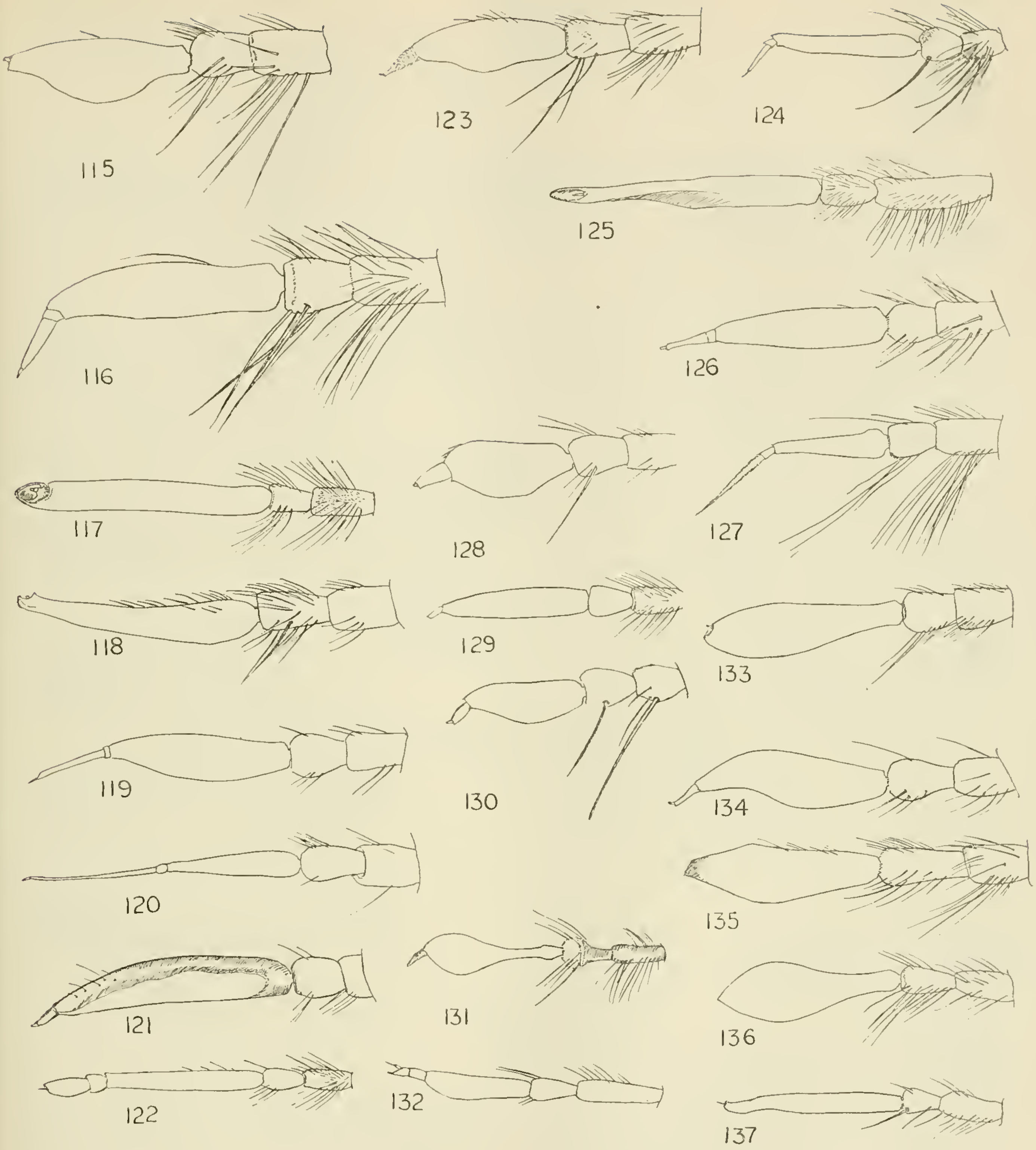
FIGURES 115–137.—115, *Neodysmachus setithoracicus* Ricardo. 116, *Cyrtopogon ruficornis* Fabricius. 117, *Sphageus chalcoproctus* Loew. 118, *Archilestris magnificus* Walker. 119, *Rhacolaemus variabilis* Hermann. 120, *Heteropogon patruelis* Coquillett. 121, *Clinopogon sauteri* Bezzi. 122, *Ceraturgopsis oklahomensis* Bromley. 123, *Zabrotica clarkei* Hull. 124, *Metapogon gibber* Willis-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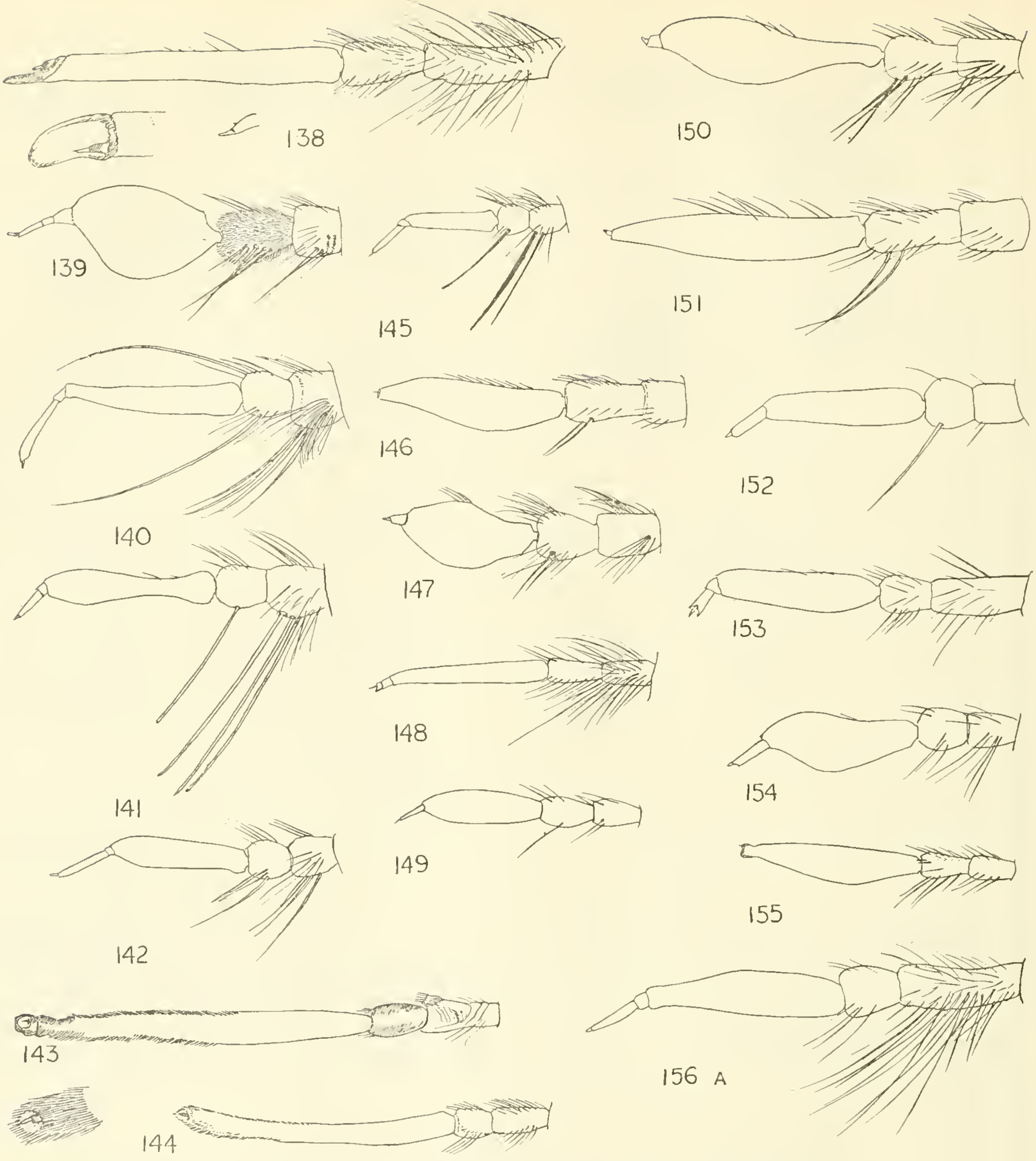
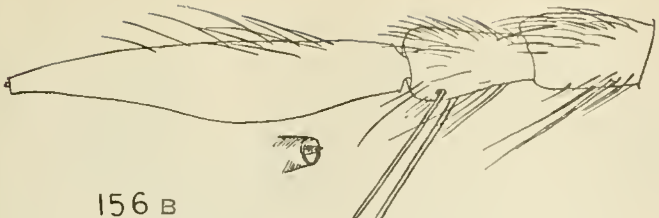
ton. 125, *Macrocolus bicolor* Engel. 126, *Stenopogon sabaudus* Fabricius. 127, *Holopogon nigripennis* Meigen. 128, *Lagodias albidipennis* Loew. 129, *Neodioctria australis* Ricardo. 130, *Coleomyia* sp. 131, *Hypenetes* sp. 132, *Pseudoholopogon chalcogaster* Dufour. 133, *Brachyrrhopala ruficornis* Macquart. 134, *Habropogon spissipes* Hermann. 135, *Chylophaga australis* Ricardo. 136, *Daspletis hirtus* Ricardo. 137, *Gonioscelis femoralis* Ricardo.



Figures 138–156a.—138, *Hystrichopogon hirticeps* Hermann. 139, *Cycloscerus platycerus* Villeneuve. 140, *Acnephalum andrenoides* Wiedemann. 141, *Ablautus squamipes* Cole. 142, *Nicocles analis* Jaennicke. 143, *Erythropogon ichnemoninformis* White. 144, *Brachyrrhopala* sp. 145, *Backomyia limpidipennis* Wilcox and Martin. 146, *Caenarolia argyrocinctus* Schiner. 147, *Deromyia* sp. 148, *Questopogon clarkii* Dakin and Fordham. 149, *Cophura sodalis* Osten Sacken. 150, *Microstylum venosum* Wiedemann. 151, *Archilestris capnopterus* Wiedemann. 152, *Hodophylax aridus* James. 153, *Nusa albicans* Engel. 154, *Alyssomyia brevicornis* Philippi. 155, *Stizochymus salinator* Walker. 156a, *Galactopogon hispidus* Engel.

Figures 156b–173.—156b, *Neodiogmites melanogaster* Wiedemann. 157, *Saropogon aurifrons* Macquart; 157a, *Saropogon obscuripennis* Macquart; 157b, *Saropogon viduus* Walker; 157c, *Saropogon*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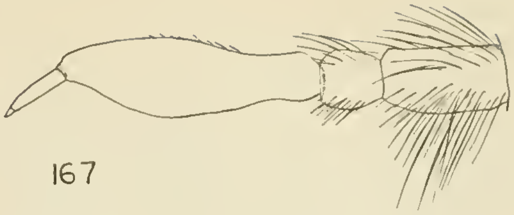
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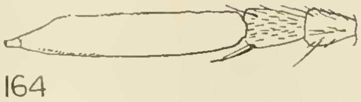
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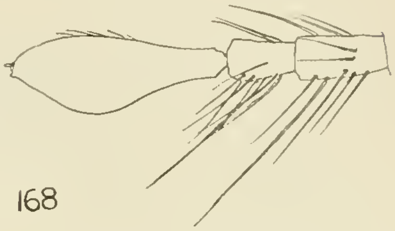
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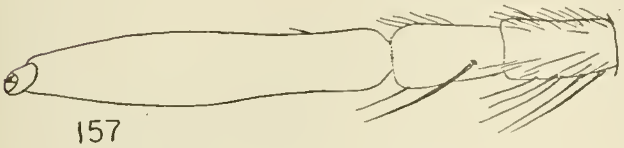
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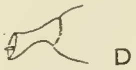
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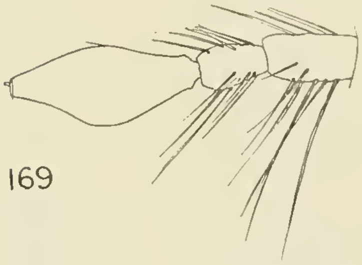
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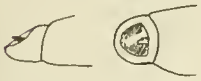
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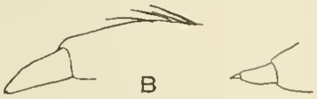
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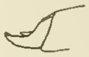
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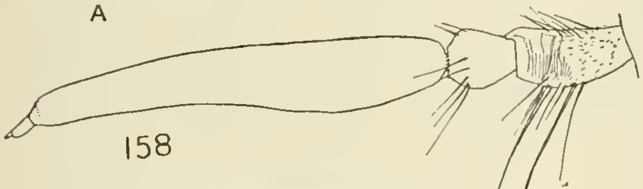
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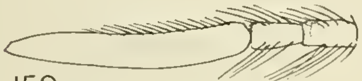
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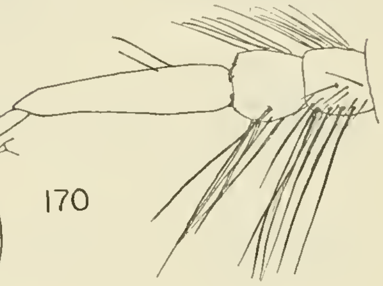
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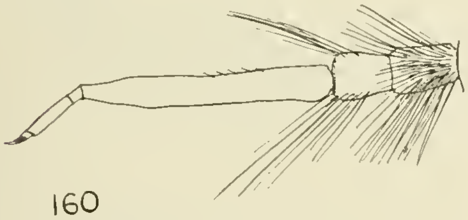
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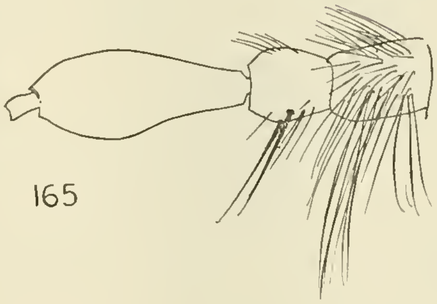
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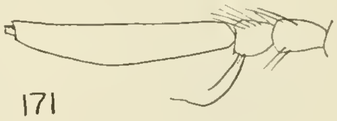
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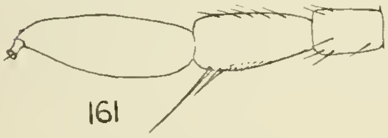
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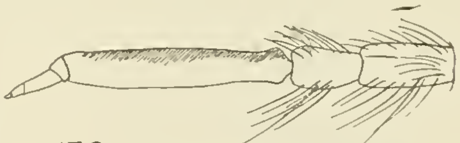
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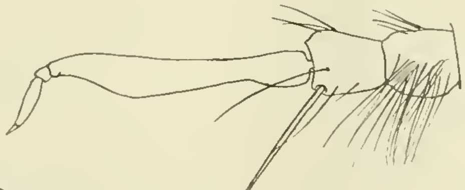
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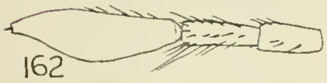
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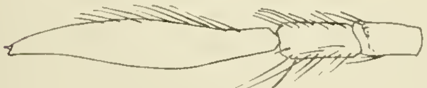
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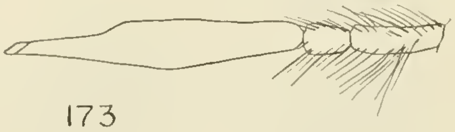
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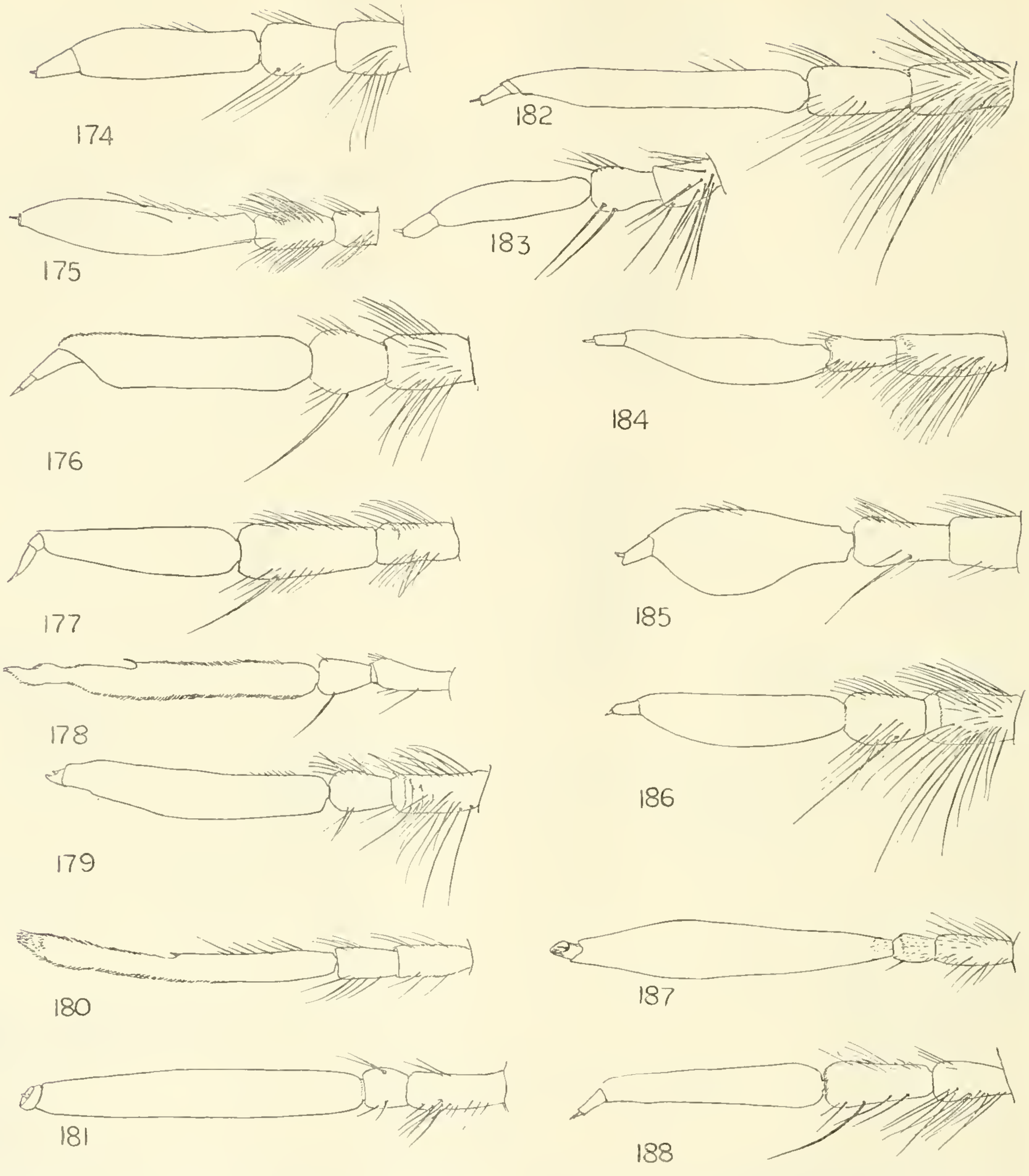
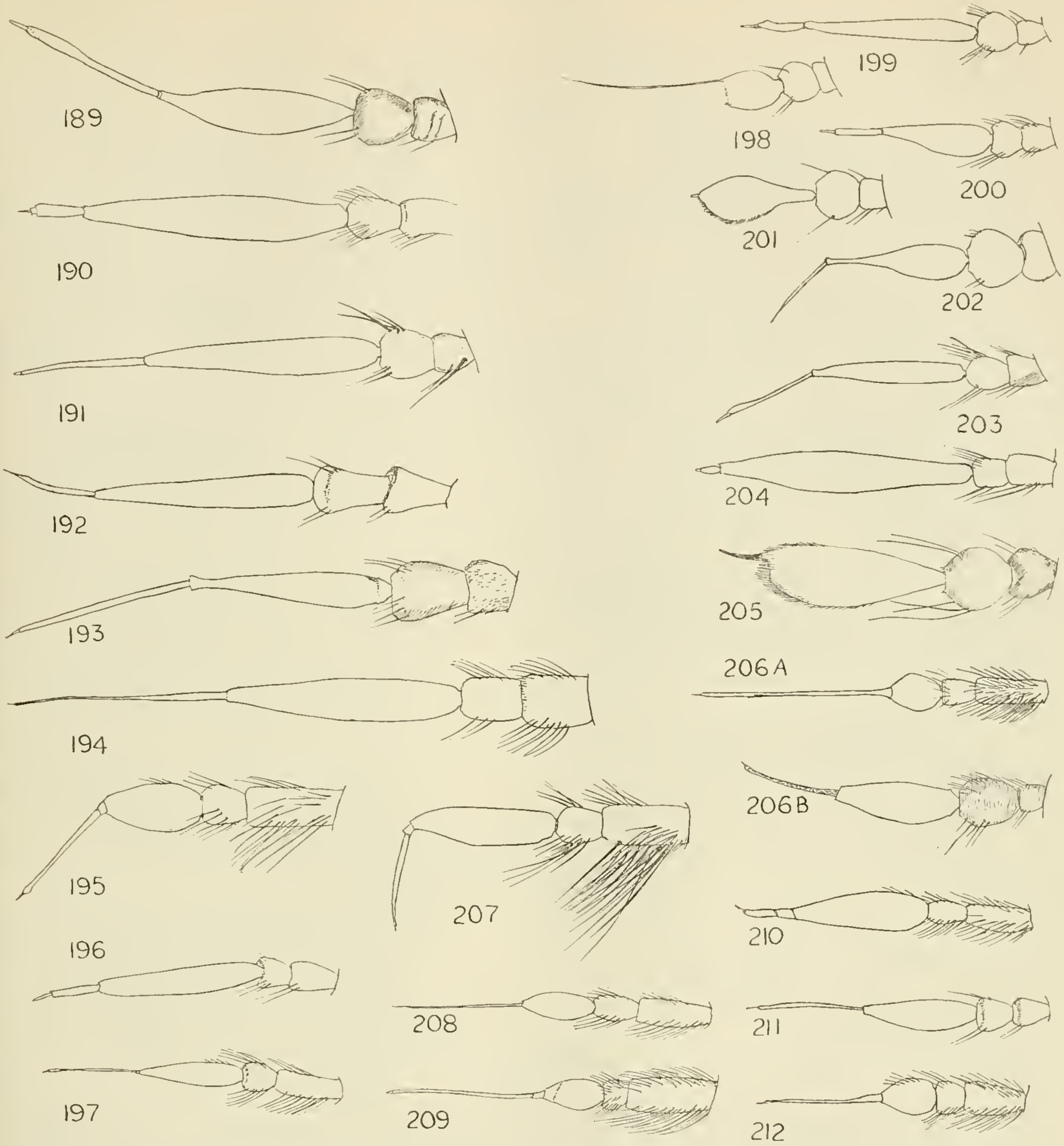
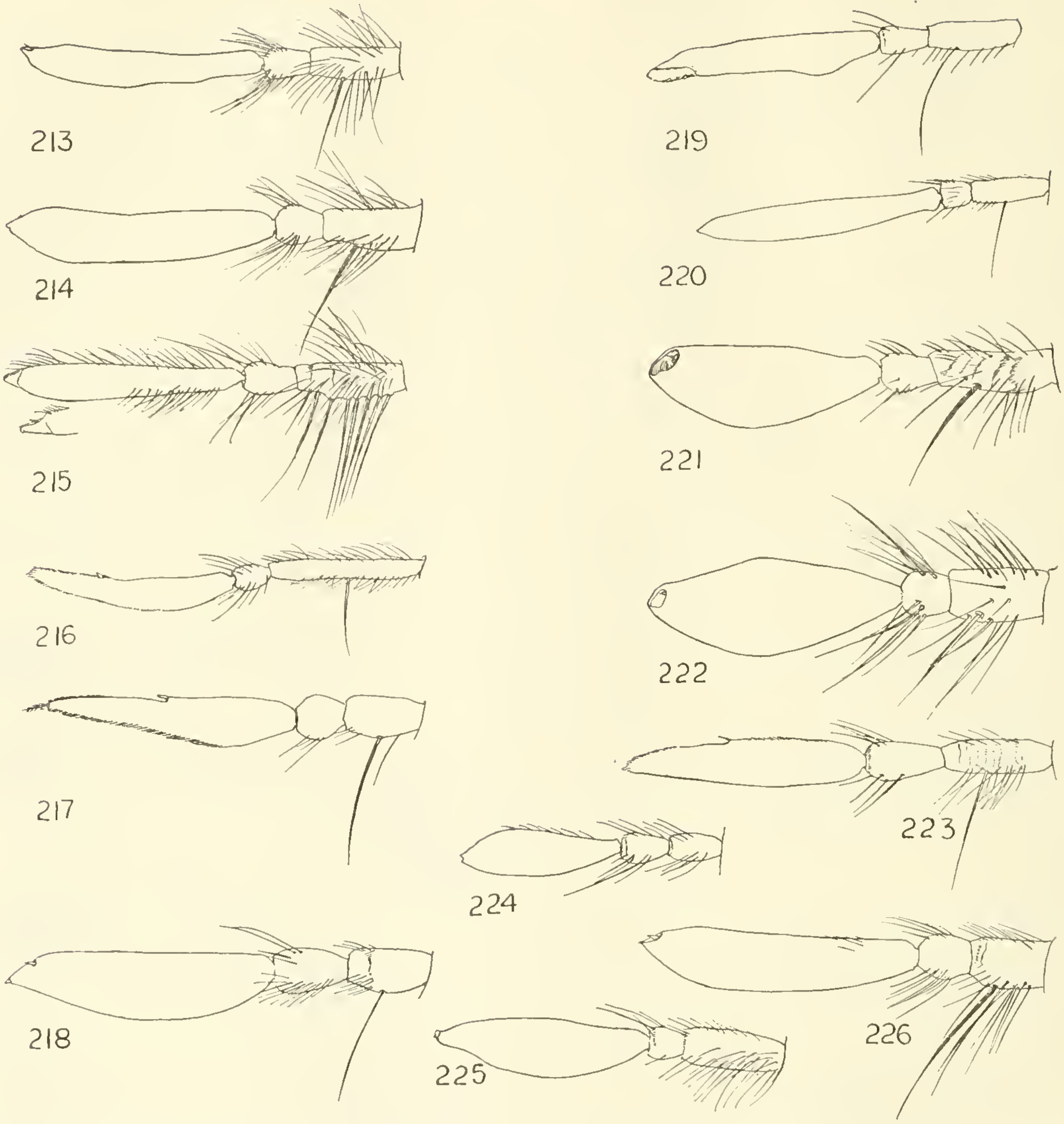
fugiens Hutton; 157D, *Saropogon longicornis* Macquart; 157E, *Saropogon dispar* Coquillett. 158, *Scylaticus degener* Schiner. 159, *Lastaurus anthracinus* Loew. 160, *Toremyia scatophagoides* Walker. 161, *Brachyrrhopala bella* White. 162, *Caenarolia basalis* Curran. 163, *Dicranus jaliscoensis* Williston. 164, *Metalaphria australis* Ricardo. 165, *Lestomyia atripes* Wilcox. 166, *Nannocyrtopogon nigricolor* Coquillett. 167, *Bathypogon* sp. 168, *Daspletis hirtus* Ricardo. 169, *Neodysmachus* sp. 170, *Theromyia murina* Philippi. 171, *Cabaza pulchella* Macquart. 172, *Annamyia maren* Pritchard. 173, *Brachyrrhopala* sp.



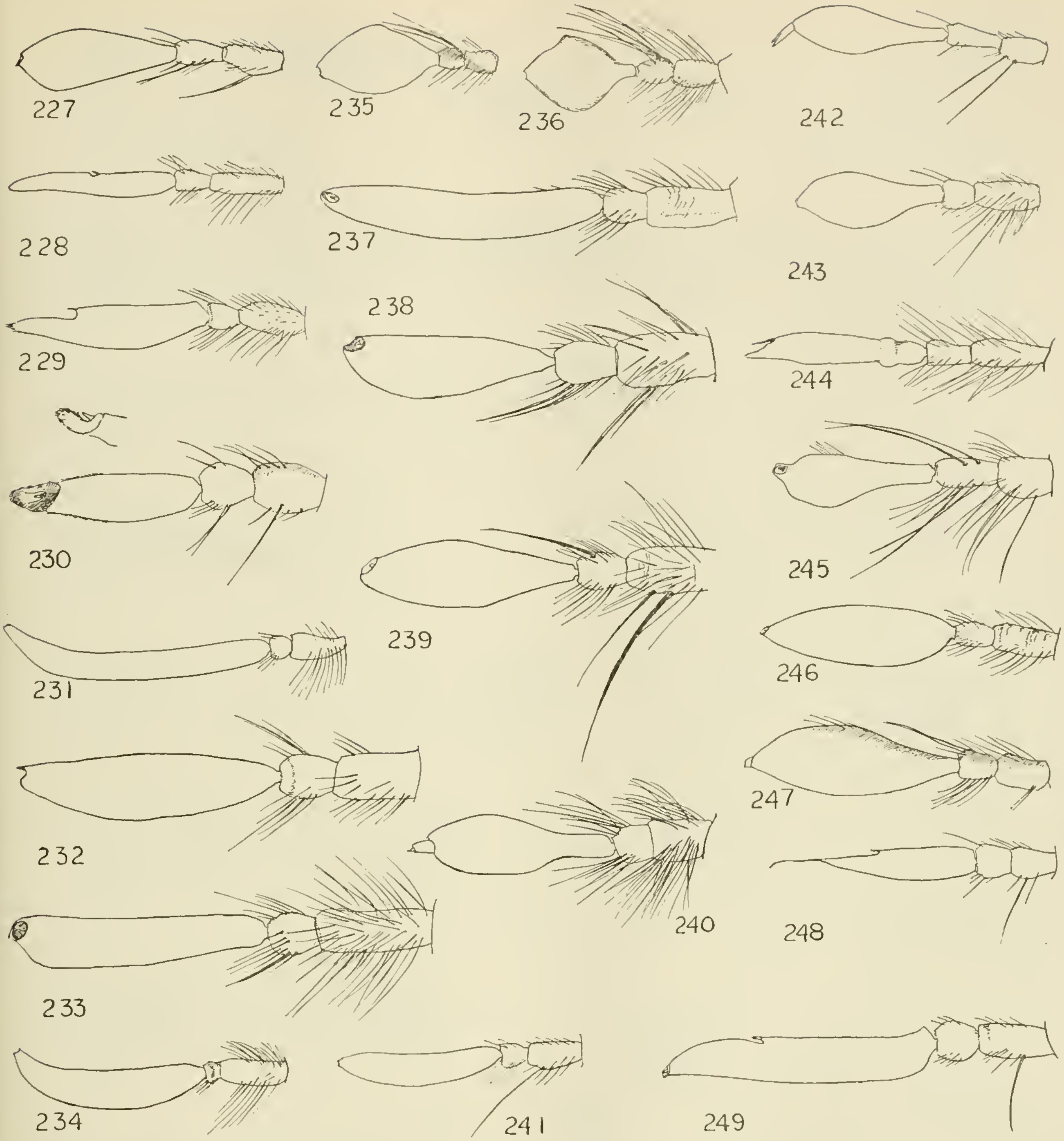
Figures 174–188.—174, *Aphamartania maculipennis* Macquart. 175, *Allopogon vittatus* Wiedemann. 176, *Paraphamartania syriaca* Engel. 177, *Aterpogon cyrtopogonoides* Hardy. 178, *Taracticus octopunctatus* Say. 179, *Austrosaropogon claviger* Hardy. 180, *Cyrtophrys attenuatus* Loew. 181, *Cylicomera* sp. 182, *Questopogon clarkii* Dakin & Fordham. 183, *Aphamartania frauenfeldi* Schiner. 184, *Neoscleropogon elongatus* Macquart. 185, *Lagodias laticornis* Loew. 186, *Saropogon discus* Walker. 187, *Prolepsis lucifer* Wiedemann. 188, *Aterpogon* sp.



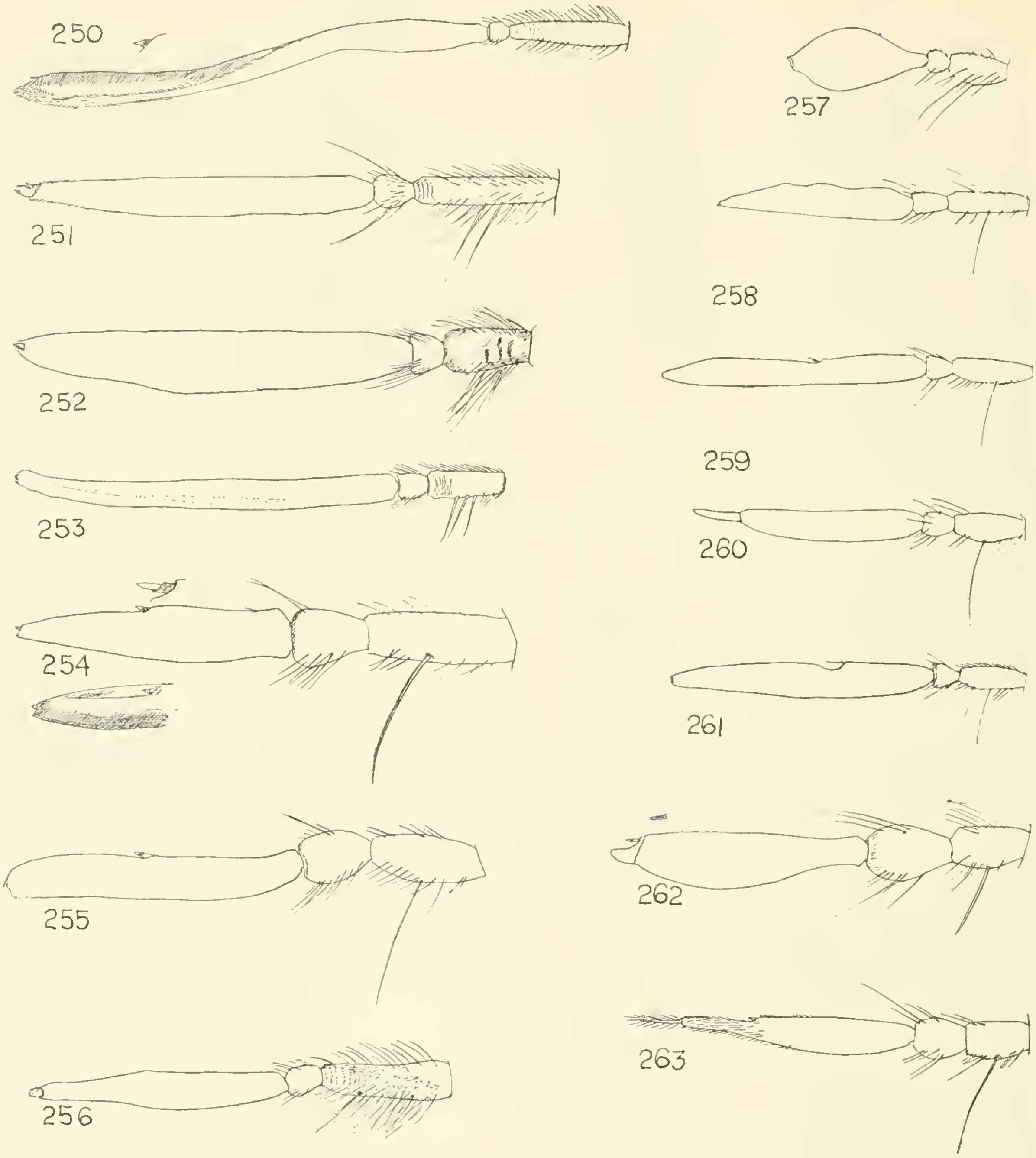
FIGURES 189–212.—189, *Dolichoscius* sp. 190, *Acronyches imitator* Hermann. 191, *Euscelidia rapax* Westwood. 192, *Ophionomima solocifemur*, Enderlein. 193, *Mesoleptogaster fuscatipennis* Frey. 194, *Mallophora infernalis* Wiedemann. 195, *Myaptex hermanni*, new species. 196, *Lagynogaster sauteri* Hermann. 197, *Eichoichemus pyrrhomystax* Wiedemann. 198, *Leptopteromyia americana* Hardy. 199, *Tipulogaster badius* Loew. 200, *Leptogaster cylindrica* De Géer. 201, *Schildia microthorax* Aldrich. 202, *Leptogaster murinus* Loew. 203, *Ammophilomima* sp. 204, *Megonix giganteus*, new species. 205, *Shannomyioleptus fragilis* Carrera. 206A, *Lochmorhynchus griseus* Guérin; 206B, *Systellogaster fascipennis* Hermann. 207, *Regasilus strigaria* Curran. 208, *Oligoschema contorta* Walker. 209, *Lonchodogonus cribratus*, new species. 210, *Chilesus geminatus* Bromley. 211, *Lasiocnemus* sp. 212, *Philonerax mucidus* Walker.



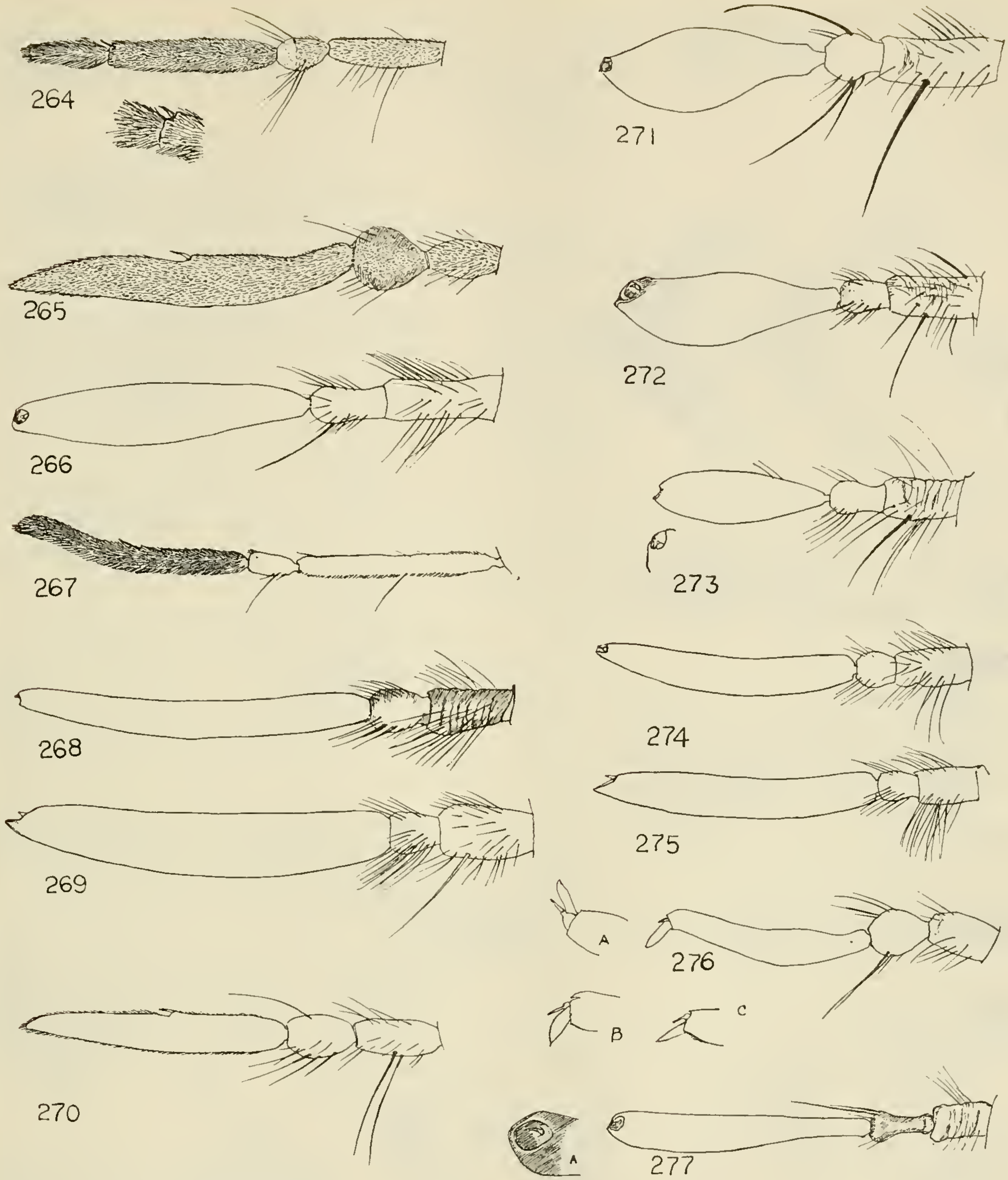
FIGURES 213–226.—213, *Bombomima fulvithorax* Fabricius. 214, *Maira* sp. 215, *Laxenecera albicincta* Loew. 216, *Cerotainia macrocera* Wiedemann. 217, *Hybozelodes nigellus* Hermann. 218, *Oidardis gibbosa* Hermann. 219, *Lowinella virescens* Loew. 220, *Atomosiella antennata* Banks. 221, *Lamyra gulo* Loew. 222, *Proagonistes athletes* Speiser. 223, *Atomosia puella* Wiedemann. 224, *Pegesimallus claelius* Walker. 225, *Stiphrolamyra rubicunda* Oldroyd. 226, *Lampria clavipes* Fabricius.



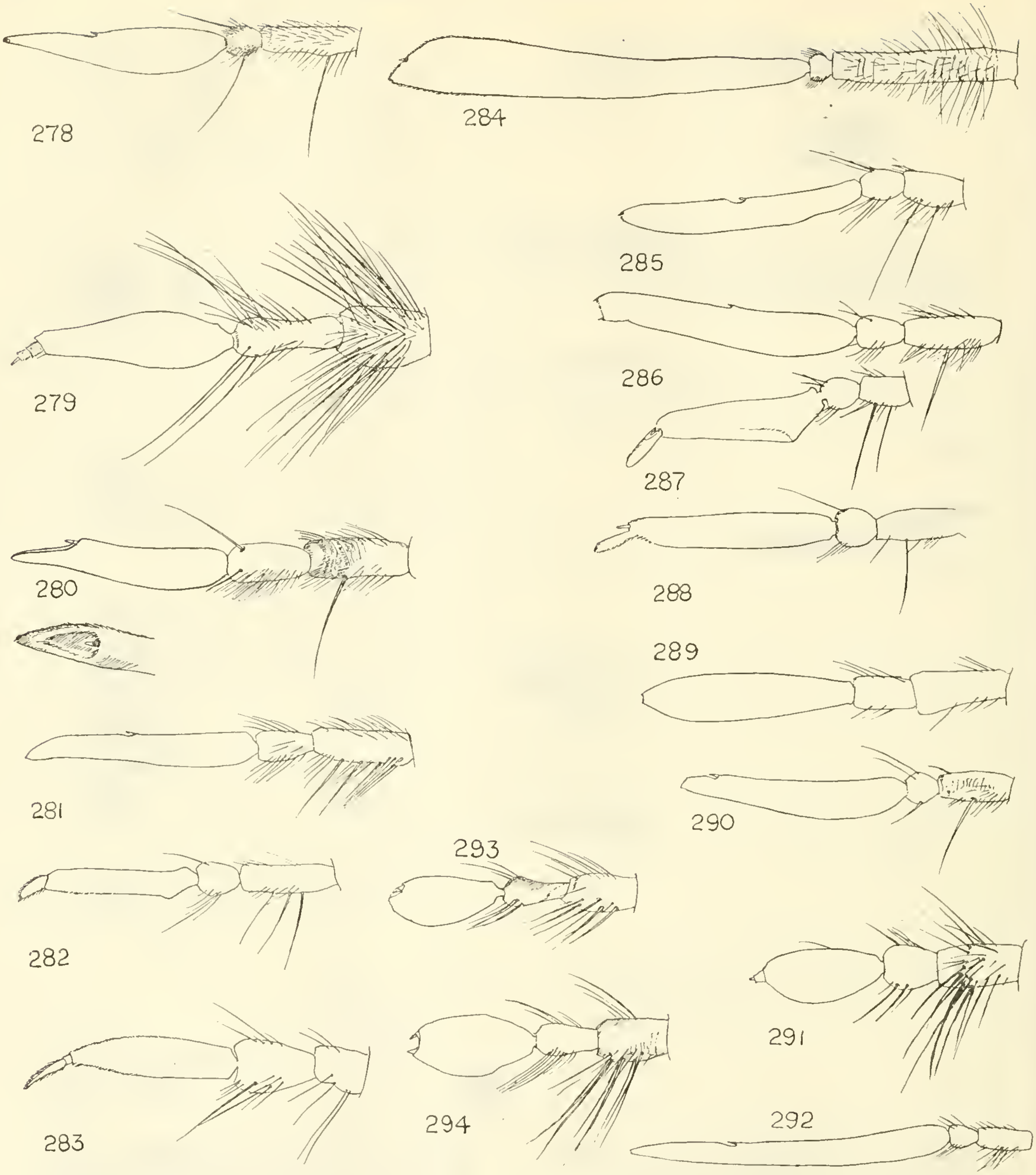
FIGURES 227–249.—227, *Cerotainiops abdominalis* Brown. 228, *Paratractia dasypus* Wiedemann. 229, *Atomosia pubescens* Bromley. 230, *Rhathimomyia nitidula* Lynch Arribálzaga. 231, *Stiphrolamyra comans* Bromley. 232, *Orthogonis scapularis* Wiedemann. 233, *Laphria gibbosus* Linné. 234, *Paractenota efflatouni* Engel. 235, *Pseudorus piceus* Walker. 236, *Doryclus distendens* Wiedemann. 237, *Pagidolaphria horrida* Walker. 238, *Pogonosoma maroccanum* Fabricius. 239, *Pilica formidolosa* Walker. 240, *Pronomopsis rubripes* Hermann. 241, *Cenochromyia bipars* Walker. 242, *Anypodetus nigrifacies* Ricardo. 243, *Ctenota molitrix* Loew. 244, *Lamprozona atrata* Philippi. 245, *Senobasis* sp. 246, *Anisosis producta* Walker. 247, *Megapoda labiata* Fabricius. 248, *Atractia* sp. 249, *Othoniomyia triangularis* Hermann.



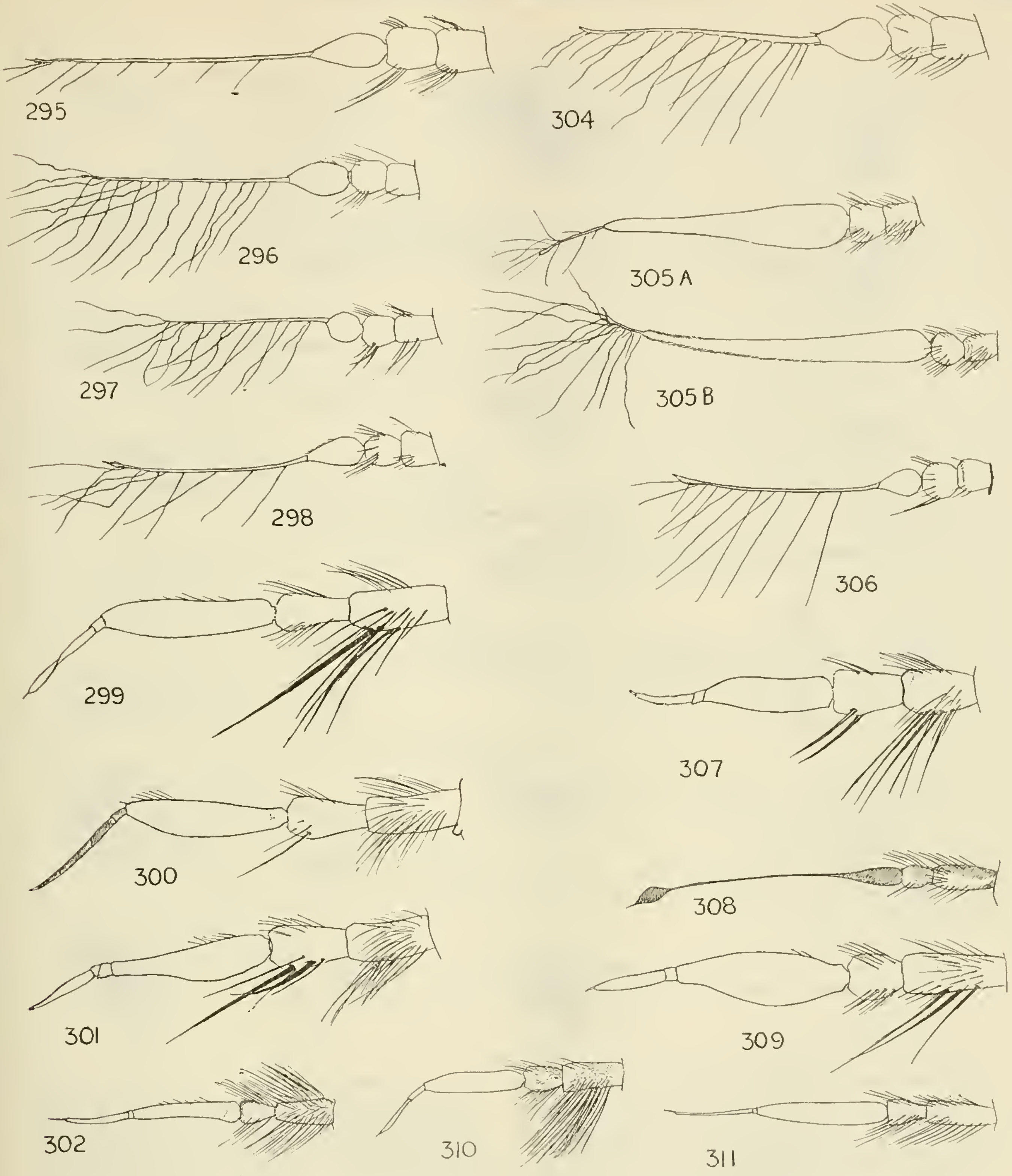
Figures 250–263.—250, *Rhopalogaster* sp. 251, *Bathropsis peruviana* Hermann. 252, *Dassylina fulvithorax* Bromley. 253, *Storthyngomerus dymes* Walker. 254, *Adelodus rufipes* Hermann. 255, *Bromotheres australis* Ricardo. 256, *Phellopteron farri* Hull. 257, *Stiphrolamyra diaxantha* Hermann. 258, *Opocapsis dioctrioides* Walker. 259, *Clariola* sp. 260, *Dissmeryngodes dispar* Walker. 261, *Epaphroditus* sp. 262, *Automolina chilensis* Hermann. 263, *Lophoceraea pennata* Hermann.



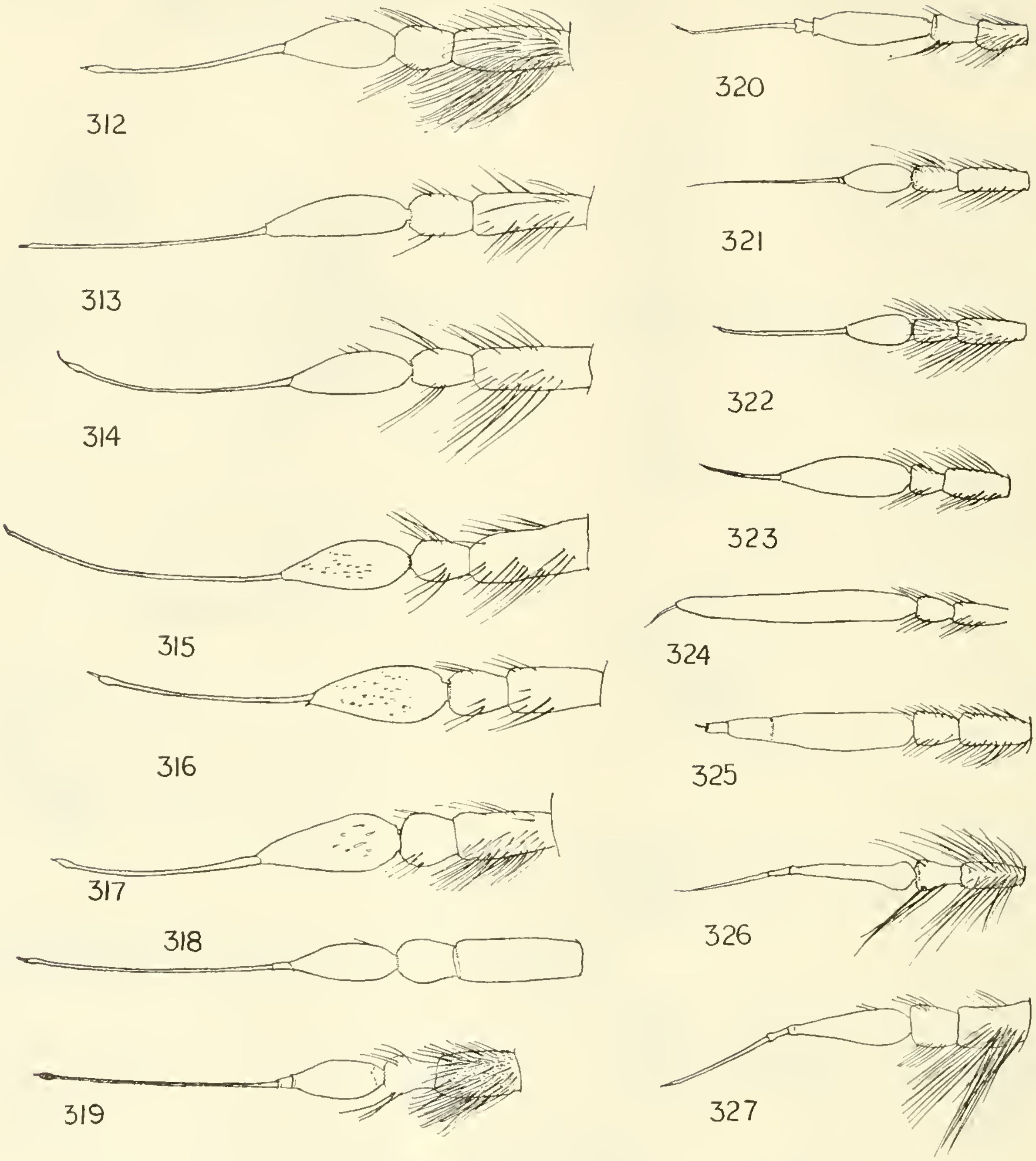
Figures 264–277a.—264 *Dichaetothyrea punctulosa* de Meijere. 265, *Anoplothyrea javana* de Meijere. 266, *Dasyllis* sp. 267, *Cyphotomyia lynchii* Williston. 268, *Pholidotus rubriventris* Hermann. 269, *Smeryngolaphria* sp. 270, *Clariola pulchra* Kertész. 271, *Andrenosoma atra* Linné. 272, *Lamyra gulo* Loew. 273, *Neophoneus mustela* Bromley. 274, *Pagidolaphria reinwardtii* Wiedemann. 275, *Smeryngolaphria* sp. 276, *Atoniomyia hispidella* Hermann; 276a, *Atoniomyia hispidella* Hermann; 276b, *Atoniomyia scalarata* Hermann; 276c, *Atoniomyia lateripunctata* Hermann. 277, *Hyperechia* sp.; 277a, *Hyperechia* sp.



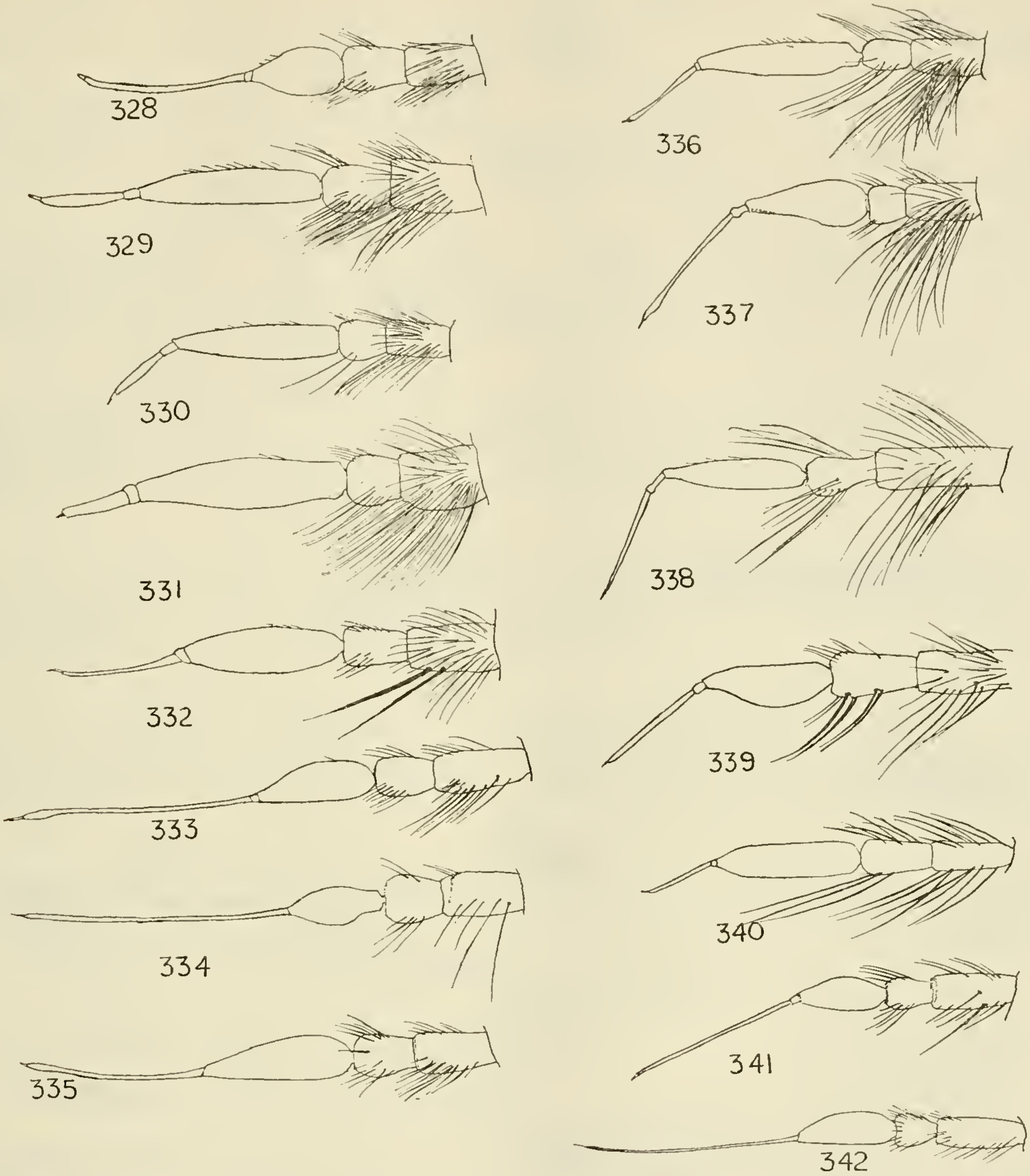
Figures 278–294.—278, *Protichisma longimanus* Hermann. 279, *Dasylechia atrox* Williston. 280, *Cyanonedys lugubris* Hermann. 281, *Paratractia dasypus* Wiedemann. 282, *Goneccalypsis lucida* Hermann. 283, *Opeatocerus purpurata* Westwood. 284, *Rhopalogaster* sp. female. 285, *Lycosimyia carrerae* Hull. 286, *Hodites punctissima*, new species. 287, *Sphagolestes nigrum*, new species. 288, *Chymedax delicatulus* Hull. 289, *Systropalpus aurivulpes*, new species. 290, *Eumecosoma pleuritica* Wiedemann. 291, *Nusa infumata* Loew. 292, *Aphestia annulipes* Macquart. 293, *Nusa leucophaea* Lynch Arribálzaga. 294, *Nusa aequalis* Walker.



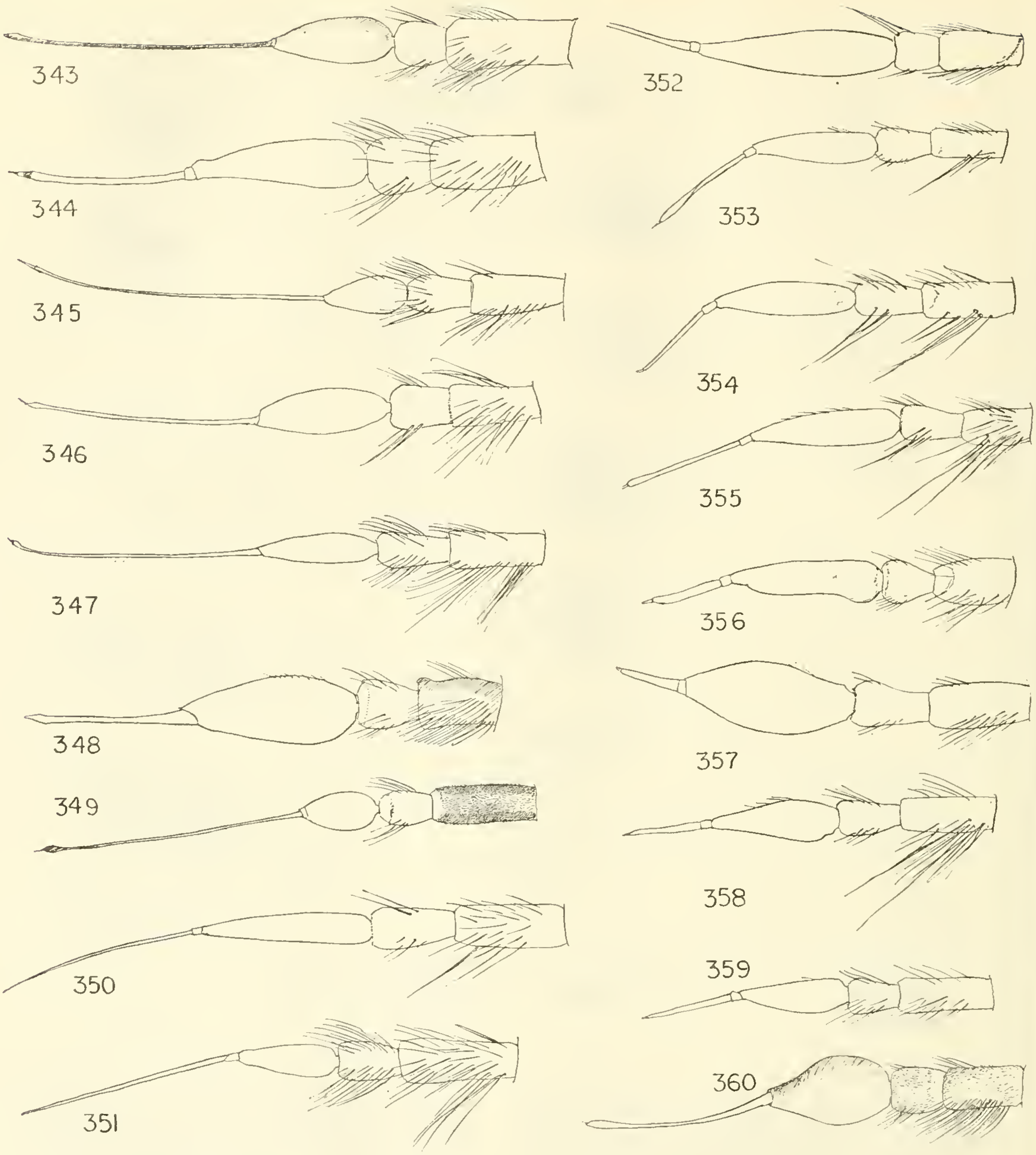
FIGURES 295-311.—295, *Cophinopoda chinensis* Fabricius. 296, *Ommatius marginellus* Fabricius. 297, *Ommatius tibialis* Say. 298, *Ommatius pinguis* Wulp. 299, *Dysmachus trigonus* Meigen. 300, *Neolophonotus* (*Lophybus*) *tarsalis* Ricardo. 301, *Neolophonotus chalcogaster* Wiedemann. 302, *Erax punctatus* Meigen. [303, no illustration.] 304, *Emphysomera conopsoides* Wiedemann. 305A, *Michotamia aurata* Fabricius. 305B, *Michotamia* sp. 306, *Ommatius* sp. 307, *Neolophonotus* (*Lophopeltis*) *molitor* Wiedemann. 308, *Lecania* sp. 309, *Rhadiurgus variabilis* Zetterstedt. 310, *Stizolestes nigriventris* Philippi. 311, *Threnia carbonaria* Wiedemann.



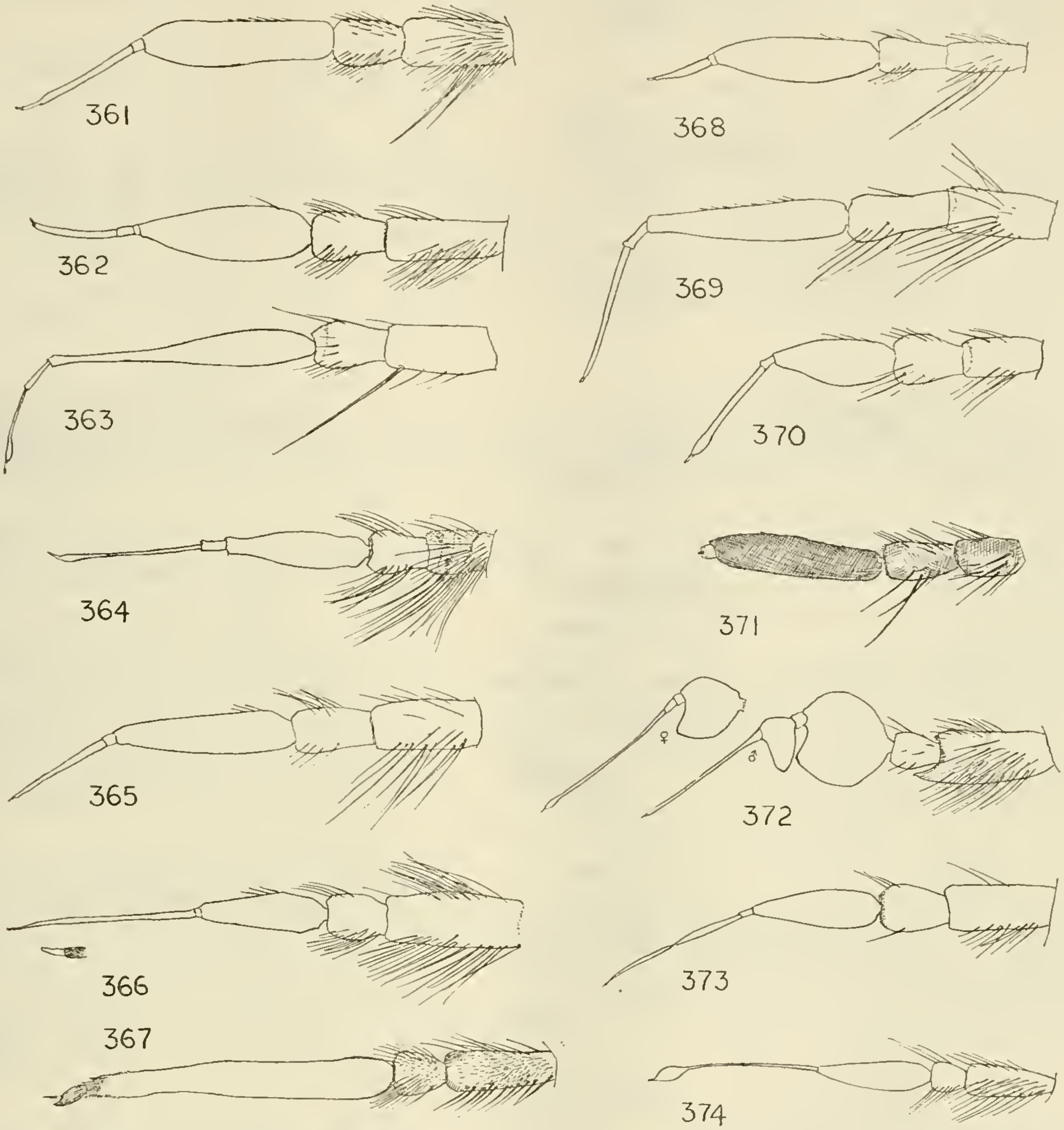
Figures 312–327.—312, *Promachus* (*Trypanoides*) *yerburiensis* Ricardo. 313, *Promachus* (*Enagaedium*) *poetinus* Walker. 314, *Porasilus barbiellinii* Curran. 315, *Diplosynapsis* sp. 316, *Eichoichemus* sp. 317, *Promachus* (*Papapromachus*) *leoninus* Loew. 318, *Clephydroneura xanthopus* Wiedemann. 319, *Anacinaces rufiventris* Macquart. 320, *Dysclytus firmatus* Walker. 321, *Oligoschema contorta* Walker. 322, *Eicherax nigripes* Bellardi. 323, *Pararatus macrostylus* Loew. 324, *Glaphyropyga himantocera* Wiedemann. 325, *Polyphonius laevigatus* Loew. 326, *Hippomachus pegasus* Loew. 327, *Cerdistus* (*Neocerdistus*) *acutangularis* Macquart.



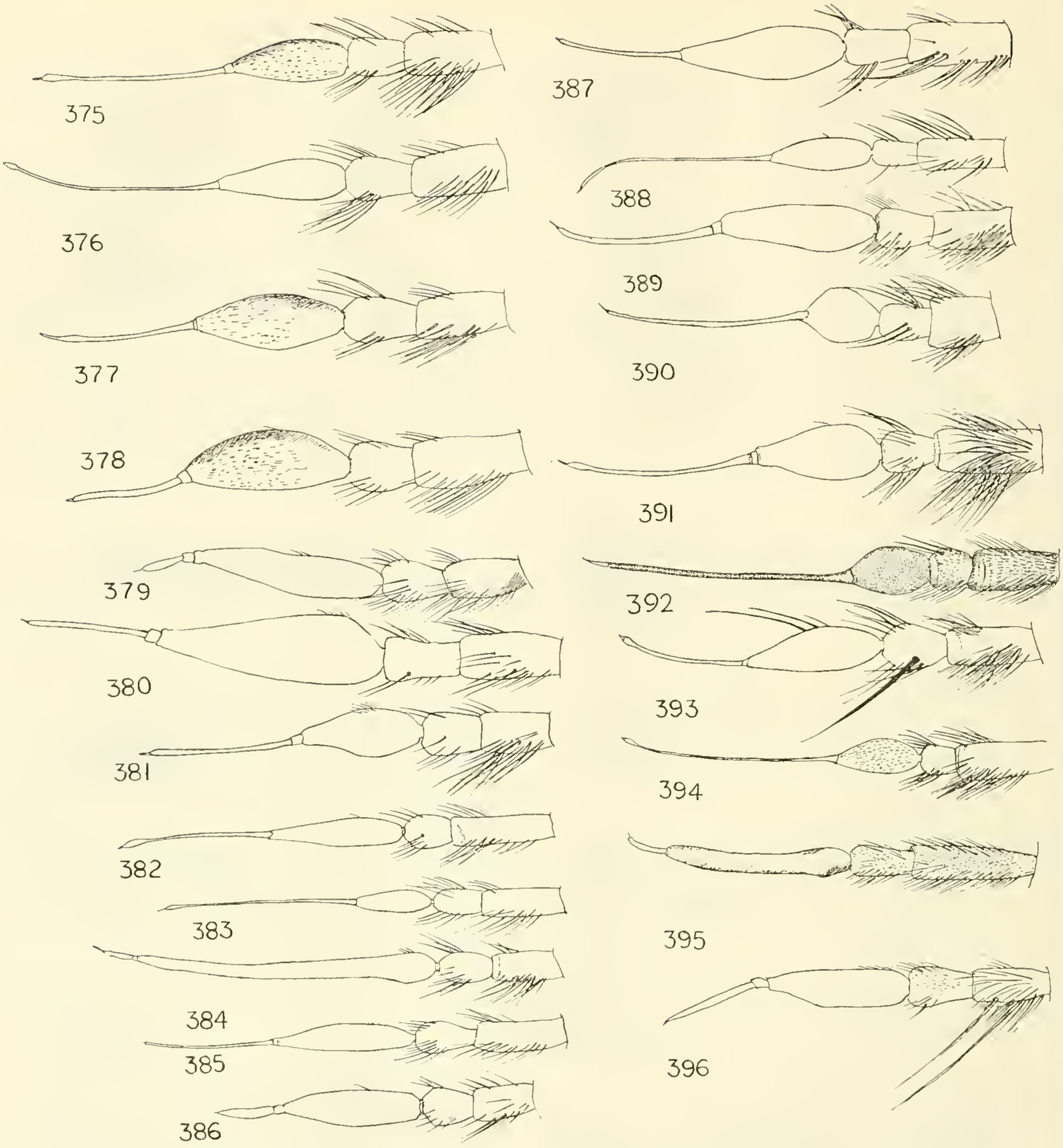
Figures 328–342.—328, *Cerdistus pallidus* Efflatoun. 329, *Cerdistus anonymus* Williston. 330, *Neoitamus rudis* Walker. 331, *Trichomachimus pubescens* Ricardo. 332, *Machimus chrysitis* Meigen. 333, *Heligmoneura modesta* Bigot. 334, *Senoprosopis tenuis* Wiedemann. 335, *Philodicus javanus* Wiedemann. 336, *Lestophonax mallophoroides*, new species. 337, *Pamponerus germanicus* Linné. 338, *Neodasophrys androclea* Walker. 339, *Hobbyus nigroflavipes* Hobby. 340, *Megadrillus elachipterus* Loew. 341, *Labromyia albibarbis*, new species. 342, *Hoplopheromerus armatipes* Macquart.



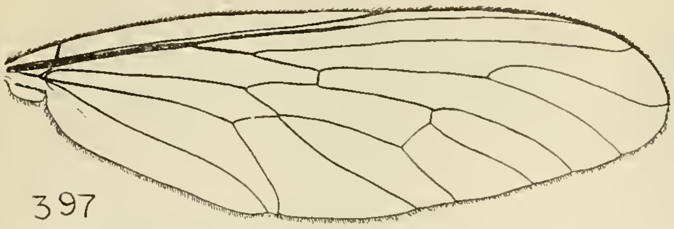
Figures 343–360.—343, *Promachus maculatus* Fabricius. 344, *Neoitamus cyanurus* Loew. 345, *Haplonota elegans* Frey. 346, *Promachina trapezoidalis* Bellardi. 347, *Amphiscolops mendax* Walker. 348, *Polysarca violacea* Schiner. 349, *Catostola carrerai*, new species, bristles of first segment omitted. 350, *Orophotus montanus* Ricardo. 351, *Nyssomyia ochracea*, new species. 352, *Blepharotes splendidissimus* Wiedemann. 353, *Tolmerus pyragra* Zeller. 354, *Synolcus tenuiventris* Loew. 355, *Antipalus varipes* Meigen. 356, *Stilpnogaster aemula* Meigen. 357, *Antiphrisson trifarius* Loew. 358, *Echthistus rufinervis* Meigen. 359, *Eccoptopus longitarsis* Macquart. 360, *Cratolestes spectabilis* Philippi.



Figures 361–374.—361, *Acanthopleura brunnipes* Fabricius. 362, *Neomoctherus pallipes* Meigen. 363, *Opopotes attenuatus* Hull. 364, *Dinozabrus bicolor*, new species. 365, *Eutolmus rufibarbis* Meigen. 366, *Neoaratus hercules* Wiedemann. 367, *Lycomya germainii* Bigot. 368, *Epitriptus cingulatus* Fabricius. 369, *Dasophrys paron* Walker. 370, *Cerdistus erythrurus* Meigen. 371, *Apharmartania*, sp. 372, *Cerozodus nodicornis* Wiedemann. 373, *Leptoharpacticus mucius* Walker. 374, *Promachus (Philomachus) vagator* Wiedemann.



FIGURES 375–396.—375, *Eicherax macularis* Wiedemann. 376, *Astochia philus* Walker. 377, *Proctacanthella leucopogon* Williston. 378, *Proctacanthella cacopilogus* Hine. 379, *Leinendera rubra* Carrera. 380, *Asilus crabroniformis* Linné. 381, *Philonicus albiceps* Meigen. 382, *Lycoprosopa atrimaculata* Hobby. 383, *Cinadus* sp. 384, *Strophipogon bromleyi* Hull. 385, *Cobalomyia fanovanensis* Bromley. 386, *Negasilus belli* Curran. 387, *Alcimus* sp. 388, *Nerax aestuans* Linné. 389, *Satanas gigas* Eversmann. 390, *Eccritosia amphinome* Walker. 391, *Proctacanthus milberti* Wiedemann. 392, *Apoclea*, sp. 393, *Anarmostus iopterus* Wiedemann. 394, *Catostola carrerai* Hull. 395, *Apotinocerus brevistylatus* Wulp. 396, *Cratopoda gayi* Macquart.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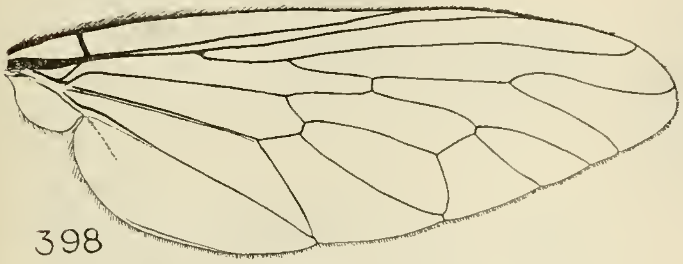
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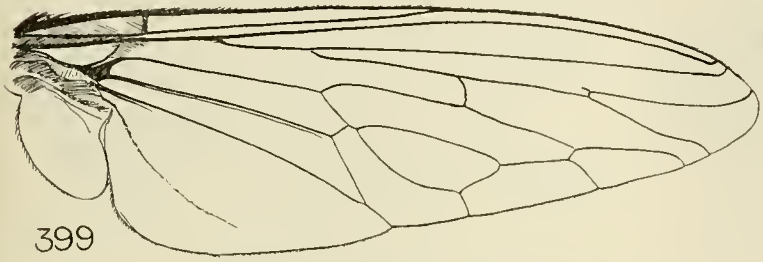
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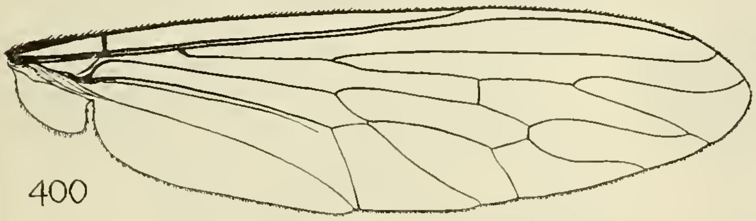
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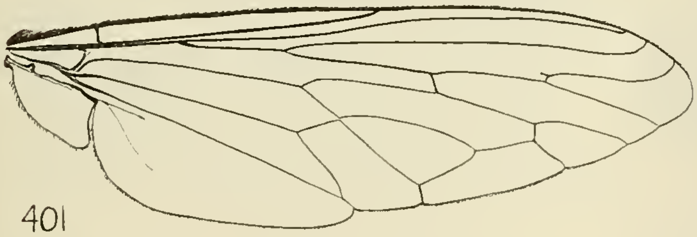
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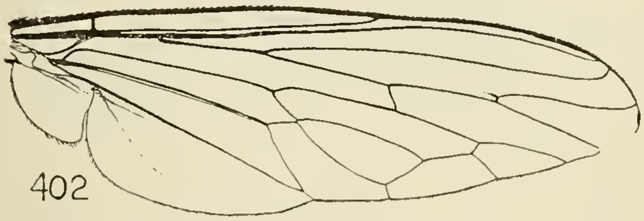
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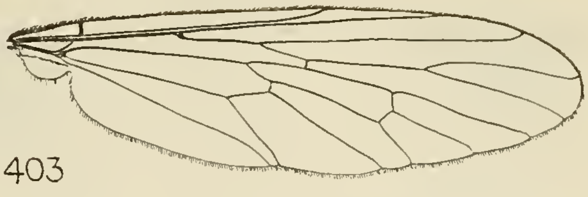
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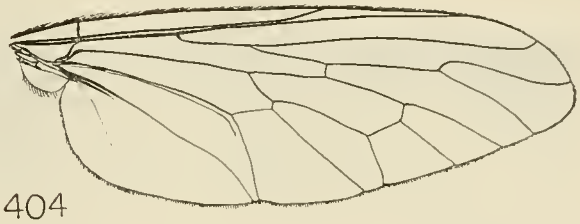
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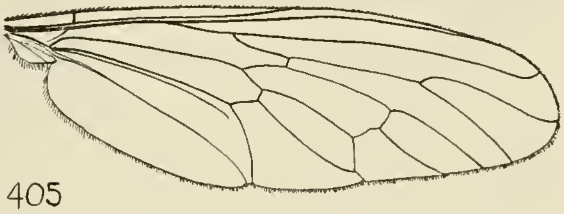
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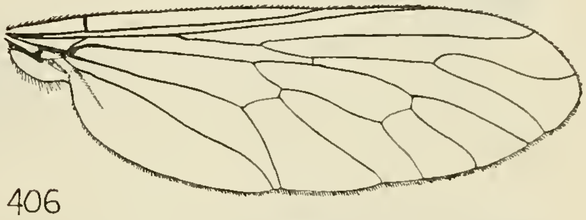
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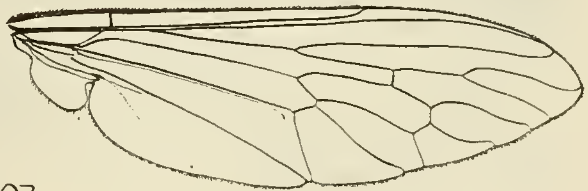
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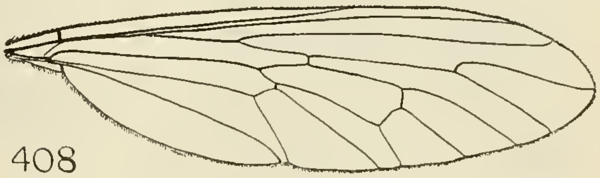
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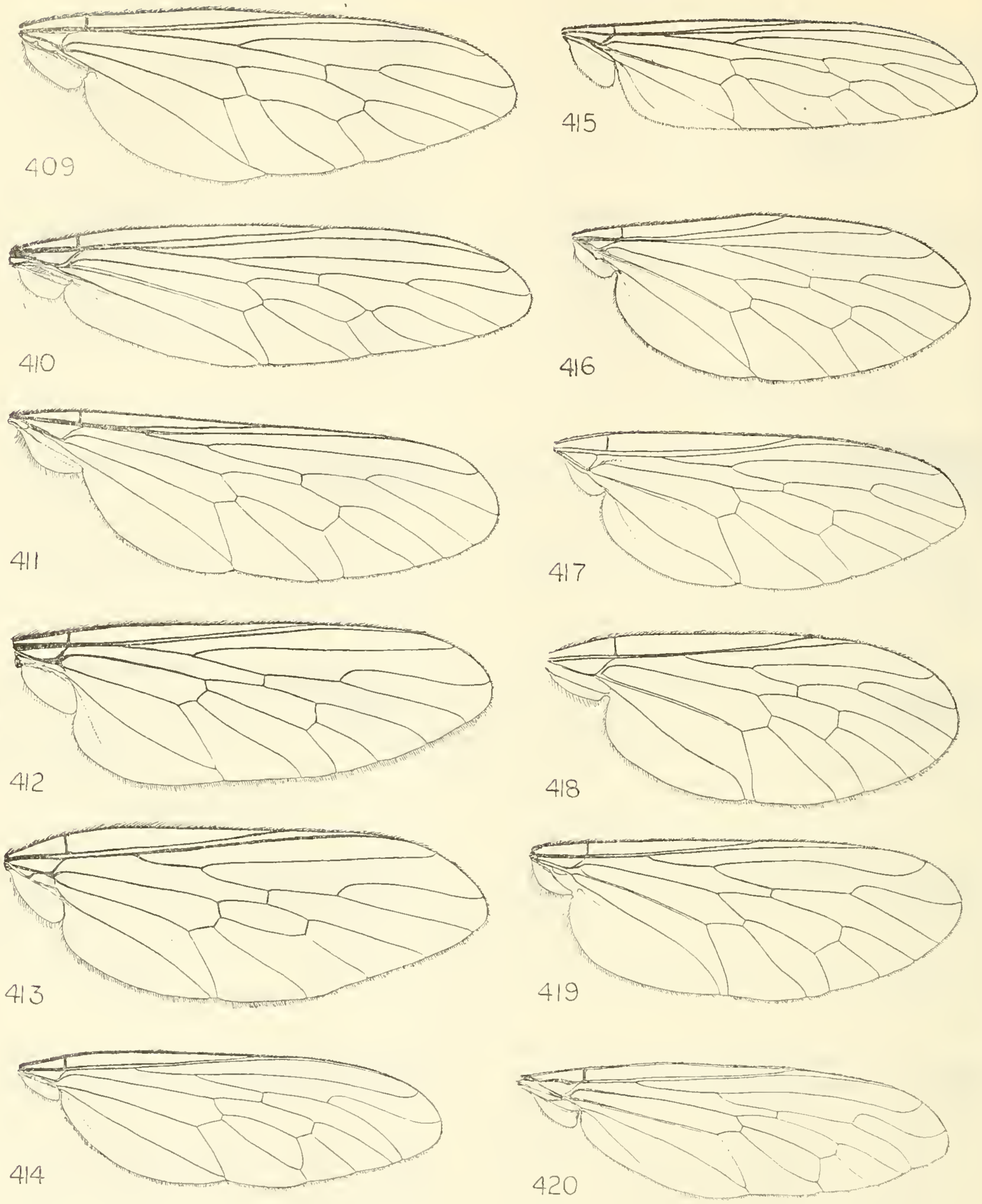
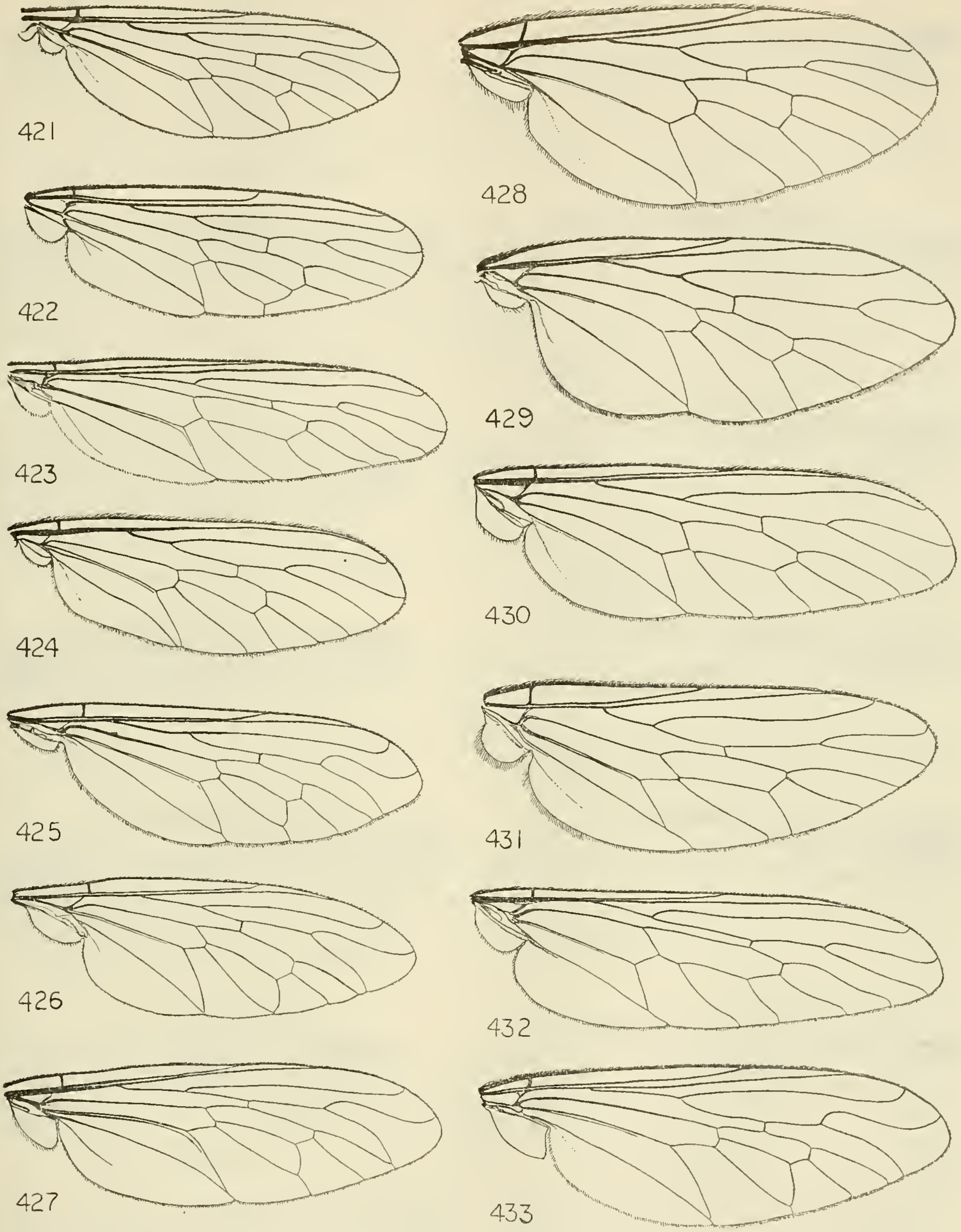
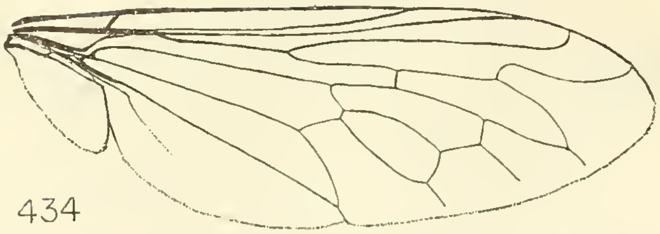
FIGURES 397–408.—397, *Dioctria oelandica* Linné. 398, *Myelaphus dispar* Loew. 399, *Phellus glaucus* Walker. 400, *Chrysopogon crabroniformis* Roeder. 401, *Obelophorus terebratus* Macquart. 402, *Psilozona albitarsis* Ricardo. 403, *Dioctria albius* Walker. 404, *Ecthodopa pubera* Loew. 405, *Aplestobroma avida* Hull. 406, *Dicolonus simplex* Loew. 407, *Opseostlengis*, new species. 408, *Broticosia rapax* Hull.



Figures 409–420.—409, *Lophurodamalis hirtiventris* Walker. 410, *Codula vespiformis* Thompson. 411, *Leptarthrus brevirostris* Meigen. 412, *Holcocephala abdominalis* Say. 413, *Trigonomima pennipes* Hermann. 414, *Gerrolasius meridionalis* Hermann. 415, *Aireina paradoxa* Frey. 416, *Oxynoton francoisi* Janssens. 417, *Paroxynoton tigrinum* Janssens. 418, *Margaritola mirabilis* Hull. 419, *Bohartia bromleyi* Hull. 420, *Hexameritia tricolor* Schiner.



Figures 421–433.—421, *Hermannella engeli*, new species. 422, *Pritchardia hirtipes* Macquart. 423, *Damalis* sp. 424, *Damalina hirtipes* de Meijere. 425, *Hexameritia splendens* Philippi. 426, *Hoplotriclis pallasii* Wiedemann. 427, *Triclioscelis perfecta* Curran. 428, *Rhipidocephala caffra* Macquart. 429, *Haplopogon erinus* Pritchard. 430, *Damalis hyalipennis* Macquart. 431, *Orrhodops americanus* Curran. 432, *Damalis myops* Fabricius. 433, *Torebroma gymnops* Hull.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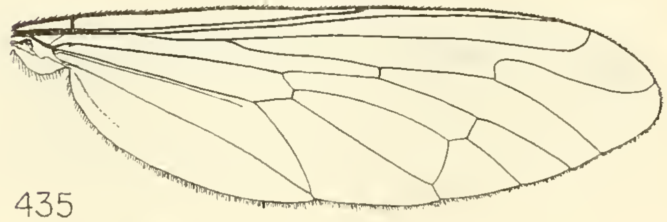
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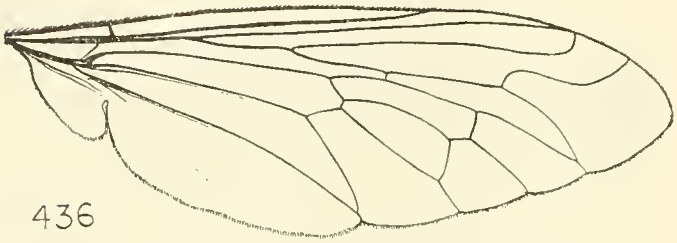
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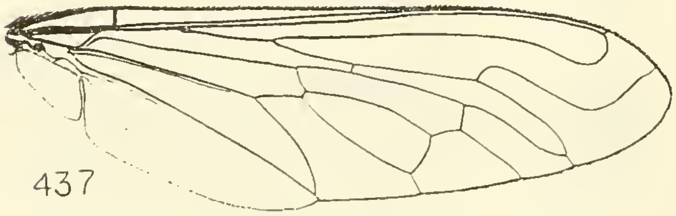
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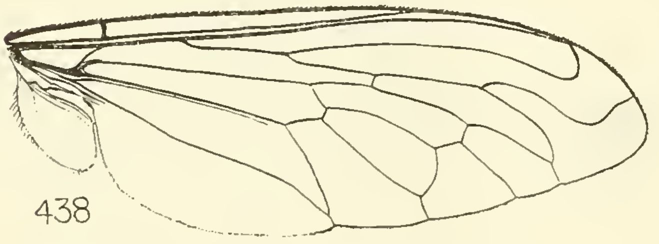
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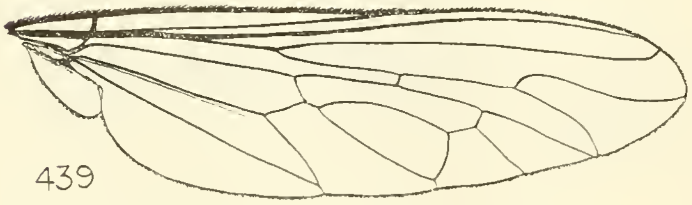
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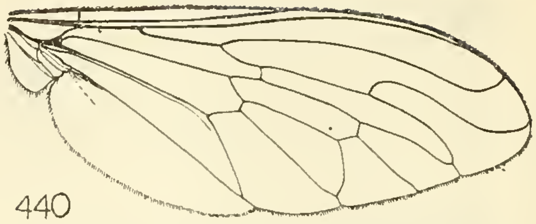
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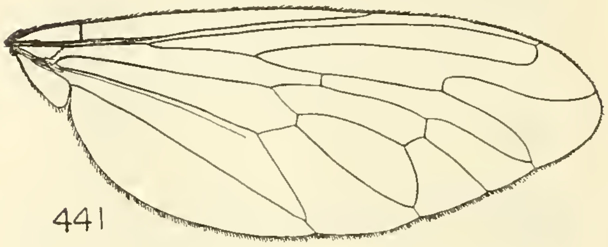
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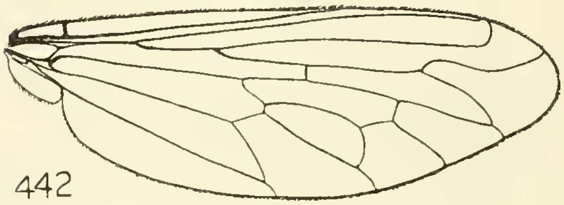
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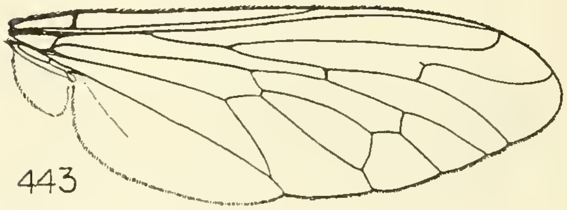
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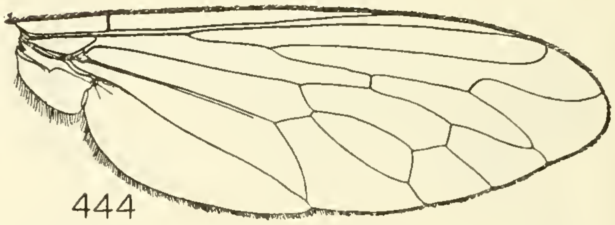
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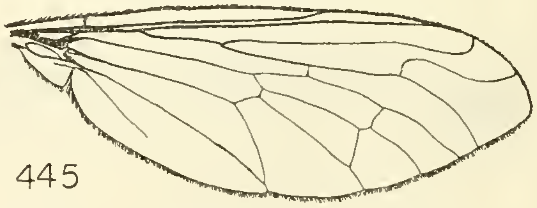
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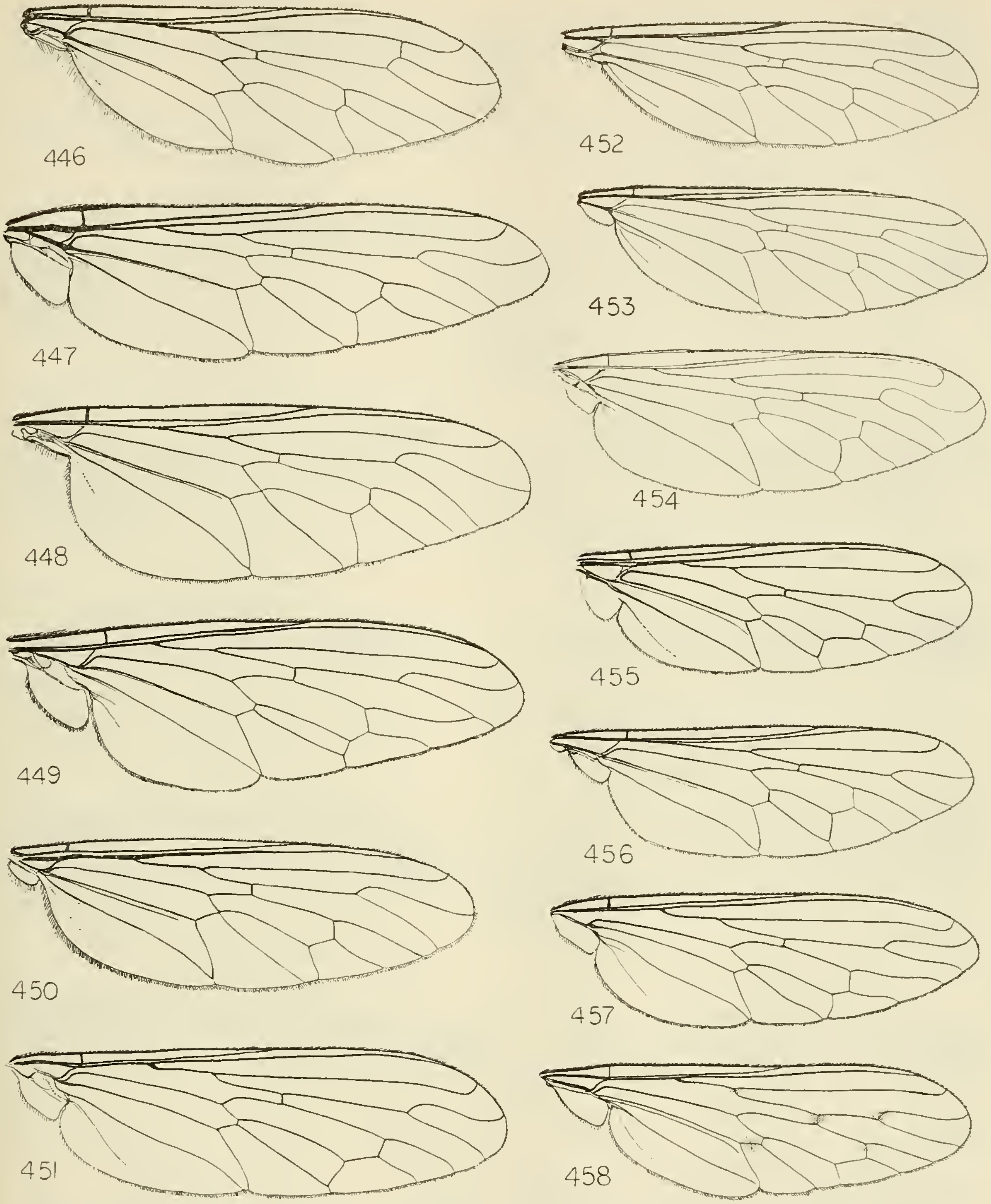
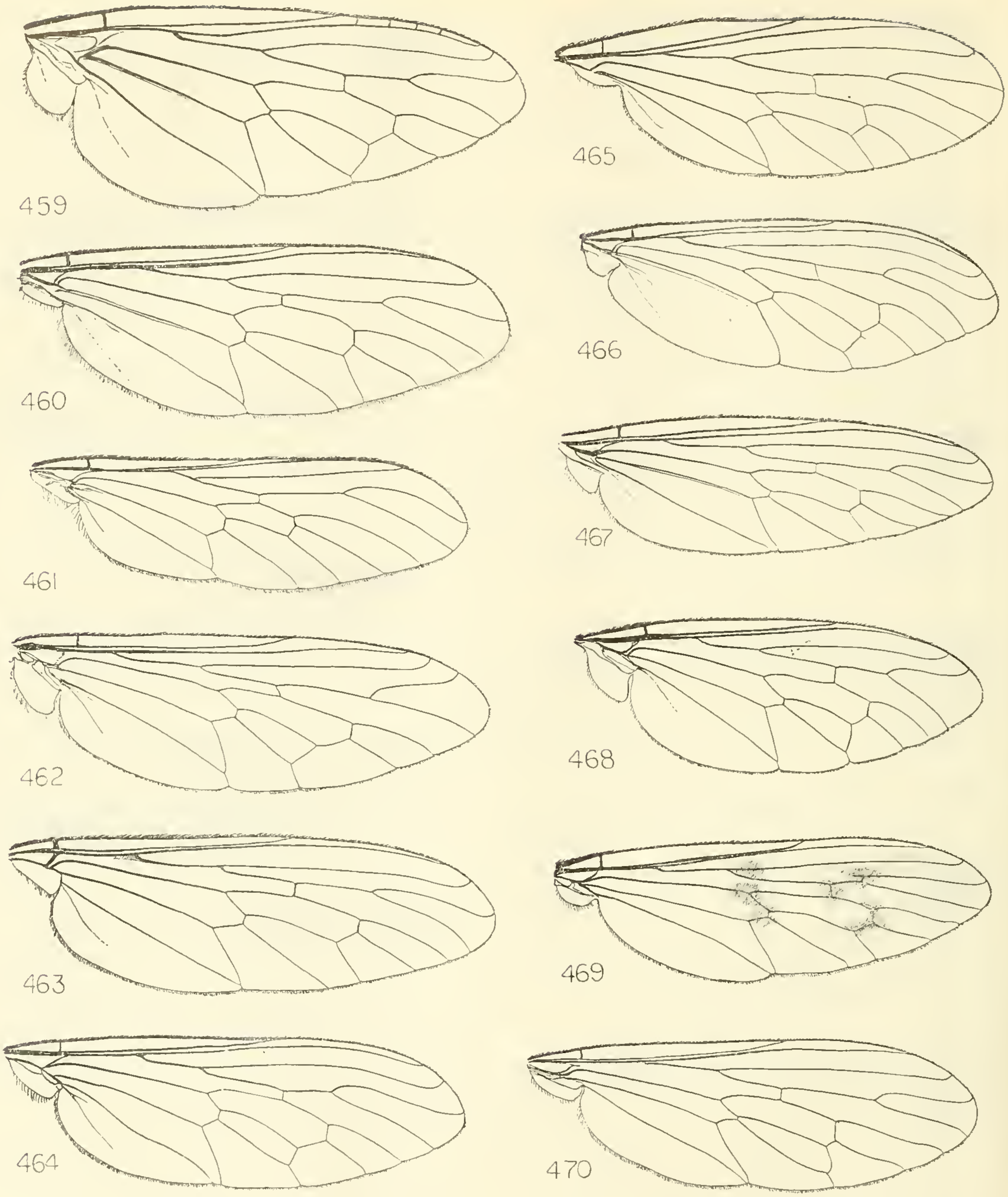
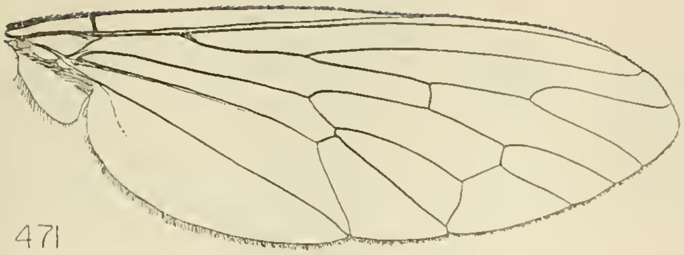
Figures 434–445.—434, *Glyphotriclis ornatus* Schiner. 435, *Psilocurus nudiusculus* Loew. 436, *Saucropogon transvaalensis* Ricardo. 437, *Hoplistomerus serripes* Fabricius. 438, *Trichardis testacea* Hermann. 439, *Triclis olivaceus* Loew. 440, *Scytomedes haemorrhoidalis* Fabricius. 441, *Acrochordomerus aeneus* Hermann. 442, *Perasis sareptana* Hermann. 443, *Laphystia sabulicola* Loew. 444, *Zabrops tagax* Williston. 445, *Macahyba nordestina* Carrera.



Figures 446–458.—446, *Cryptogogon vernaculus* White. 447, *Stenopogon elongatus* Meigen. 448, *Clinopogon* sp. 449, *Stenopogon aphrices* Walker. 450, *Neopogon trifasciatus* Say. 451, *Gonioscelus femoralis* Ricardo. 452, *Stichopogon* (*Echinopogon*) *albofasciatus* Meigen. 453, *Stichopogon* (*Dichropogon*) *schineri* Koch. 454, *Apoxyria apicata* Schiner. 455, *Rhacolaemus variabilis* Hermann. 456, *Rhadinus megalonix* Loew. 457, *Ospriocerus diversus* Williston. 458, *Galactopogon hispidus* Engel.



Figures 459–470.—459, *Prolepsis lucifer* Wiedemann. 460, *Lasiopogon cinctus* Fabricuis. 461, *Oligopogon pollinosus* Engel. 462, *Bathypogon aoris* Walker. 463, *Hypenetes* sp. 464, *Zabrotica clarkei* Hull. 465, *Pseudoholopogon chalcogaster* Dufour. 466, *Diogmites platypterus* Loew. 467, *Neosaropogon princeps* Macquart. 468, *Dasypogon diadema* Fabricius. 469, *Comantella fallei* Back. 470, *Teratopus cyaneus* Fabricius.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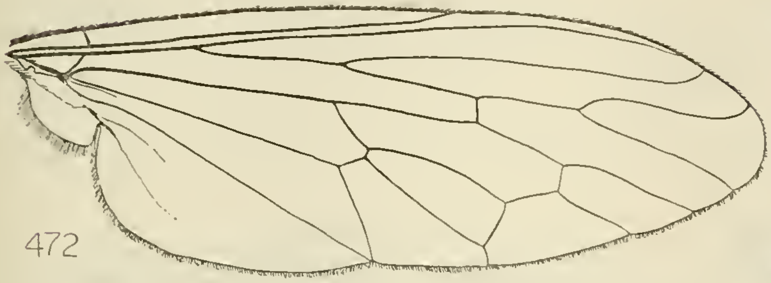
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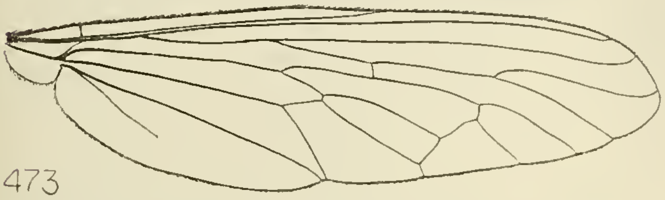
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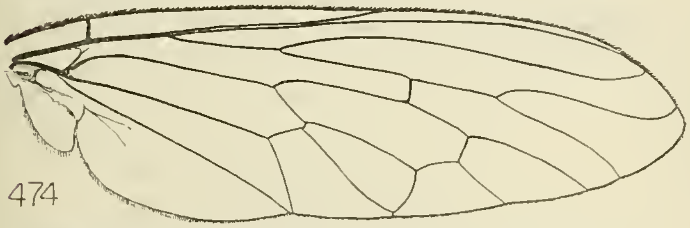
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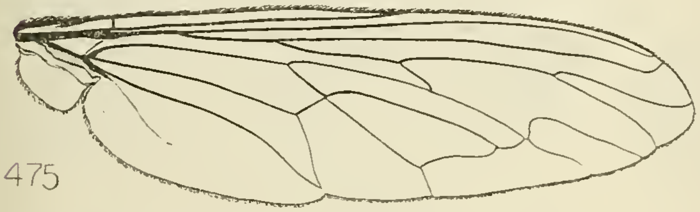
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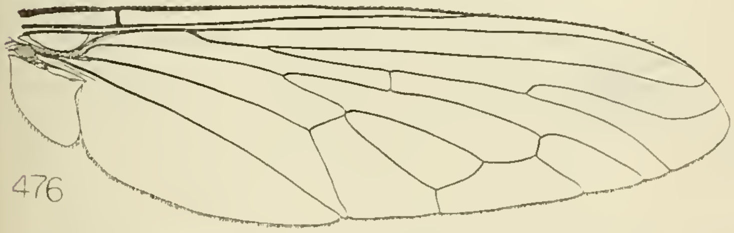
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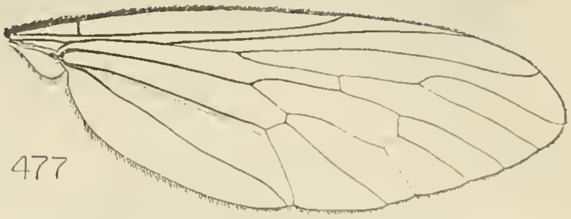
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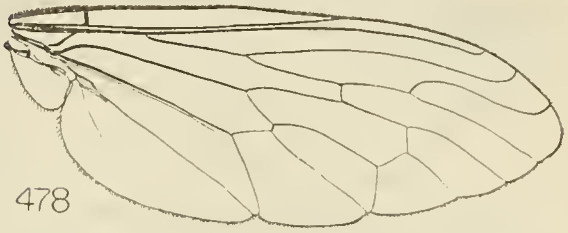
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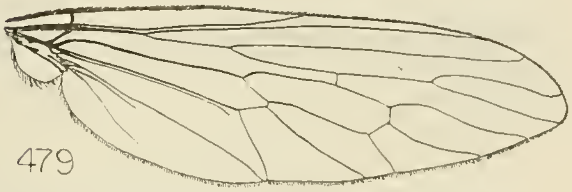
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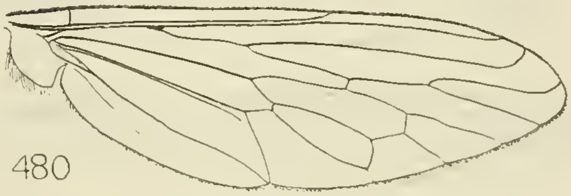
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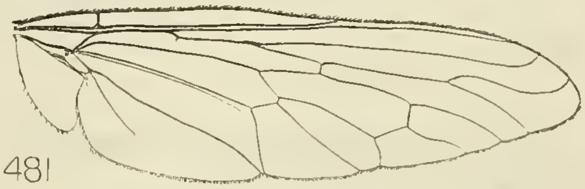
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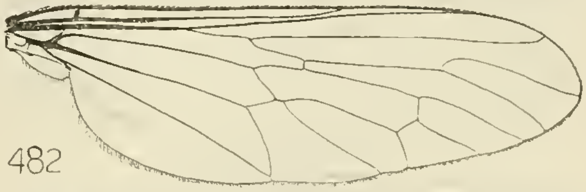
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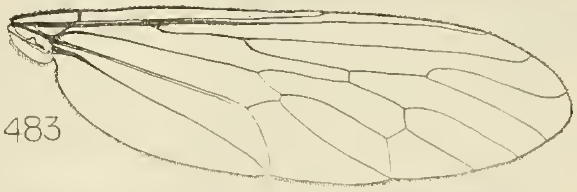
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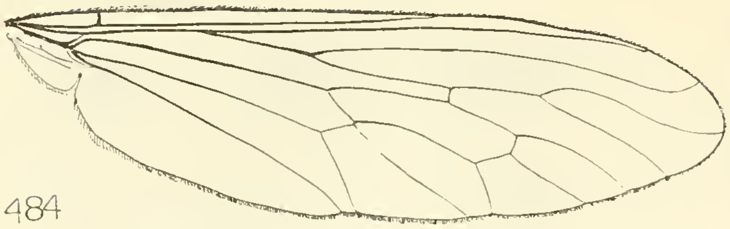
FIGURES 471–483.—471, *Dizonias phoenicurus* Loew. 472, *Tolmerolestes pluto* Lynch Arribálzaga. 473, *Archilestris capnopterus* Wiedemann. 474, *Sphageus chalcoproctus* Loew. 475, *Microstylum elegans* Loew. 476, *Dicranus schrottkyi* Bezzi. 477, *Macrocolus* sp. 478, *Cylicomera rubrofasciata* Lynch Arribálzaga. 479, *Aspidopyga cophuroides* Carrera. 480, *Alyssomyia brevicornis* Philippi. 481, *Neoscleropogon elongatus* Macquart. 482, *Lissoteles vanduzeei* Cole. 483, *Willistonina bilineata* Williston.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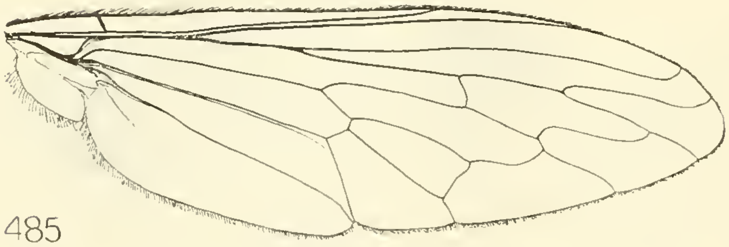
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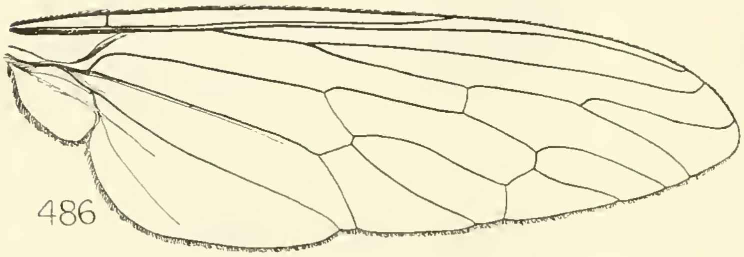
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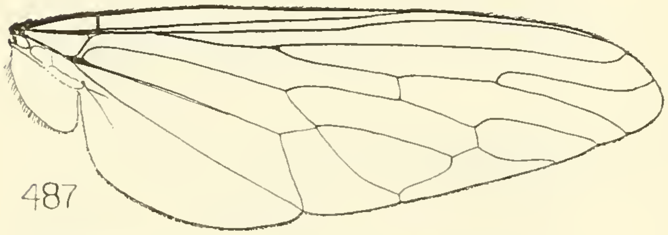
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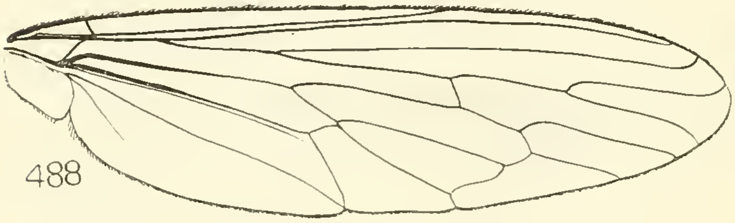
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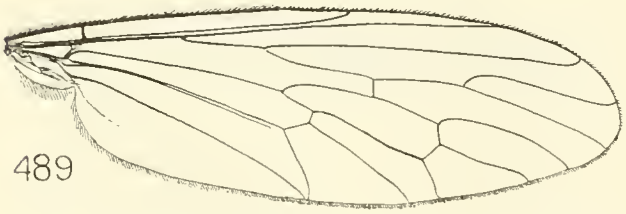
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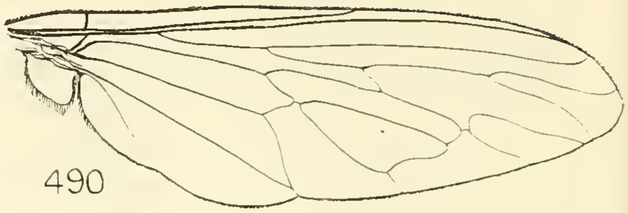
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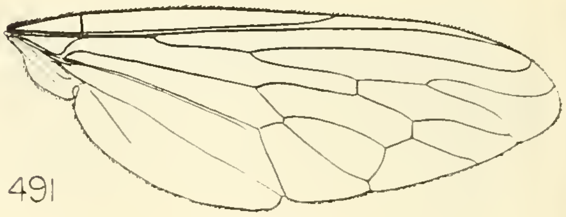
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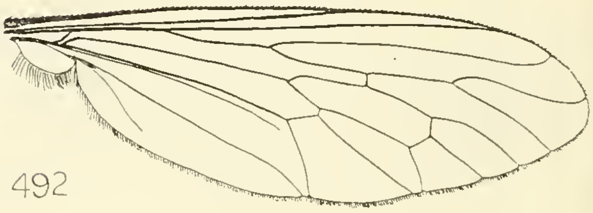
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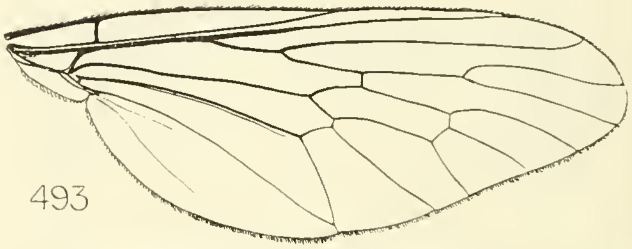
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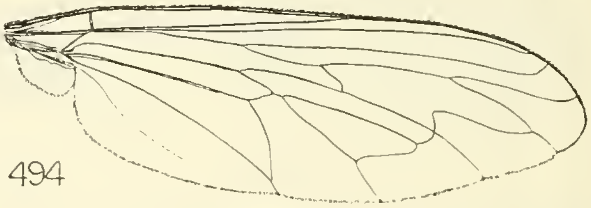
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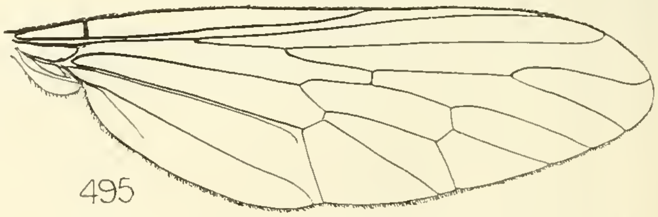
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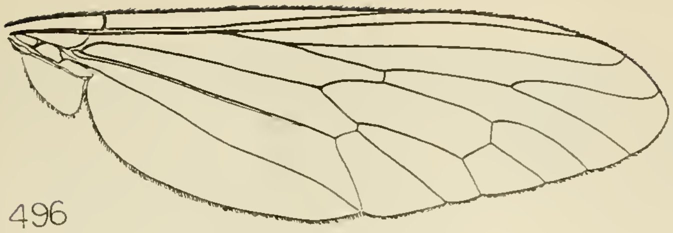
Figures 484–495.—484, *Neodioctria australis* Ricardo. 485, *Daspletis vulpes* Loew. 486, *Questopogon clarkii* Dakin and Fordham. 487, *Oratostylum lepidum* Ricardo. 488, *Neodysmachus setithoracicus* Ricardo. 489, *Nannocyrtopogon nigricolor* Coquillett. 490, *Epiblepharis pedunculata* Bezzi. 491, *Dioctobroma flavoterminatus*, new species. 492, *Spanurus tellinii* Bezzi. 493, *Holopogon nigripennis* Meigen. 494, *Eclipsis maculiventris* Bezzi. 495, *Cycloscerus platycerus* Villeneuve.



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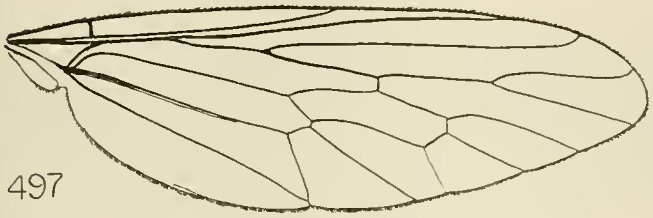

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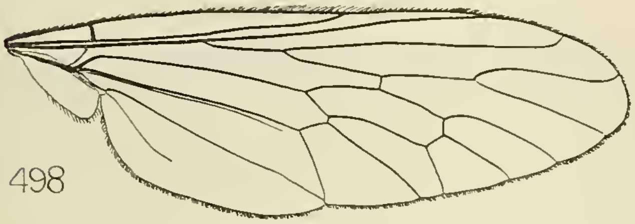

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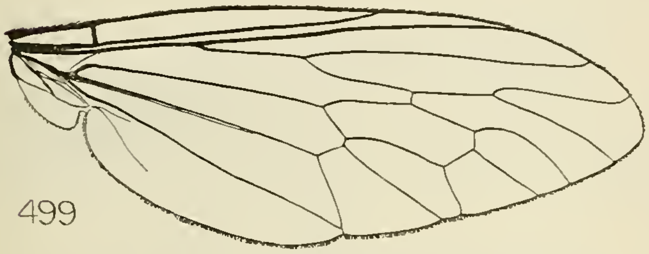

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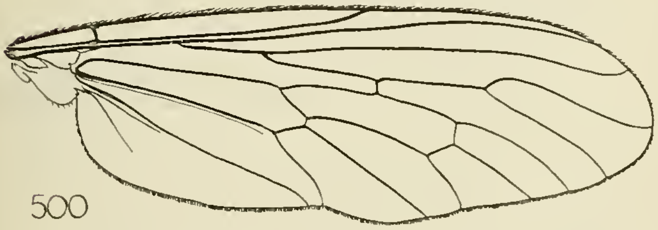

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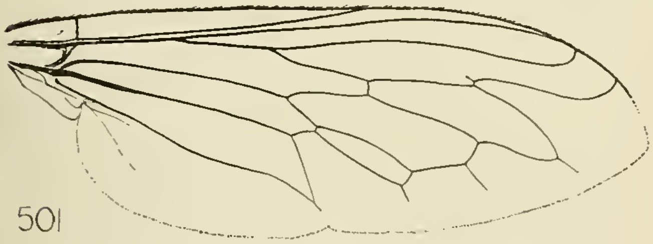

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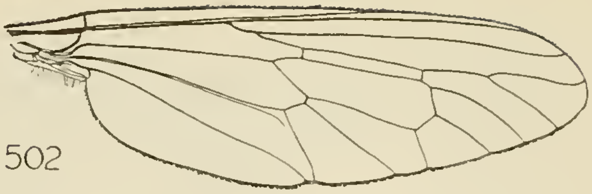

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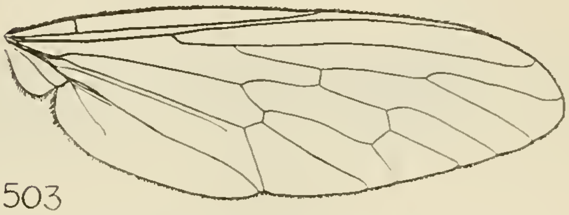

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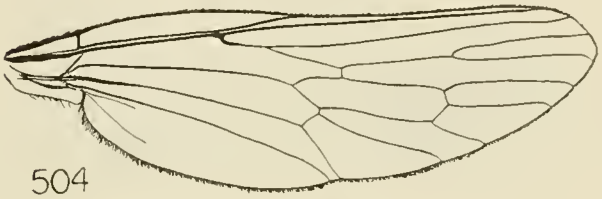

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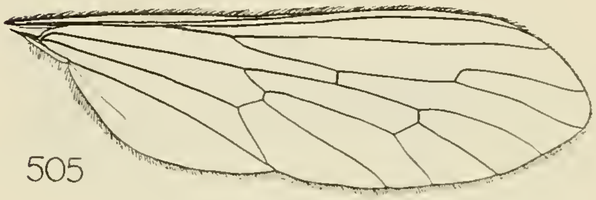

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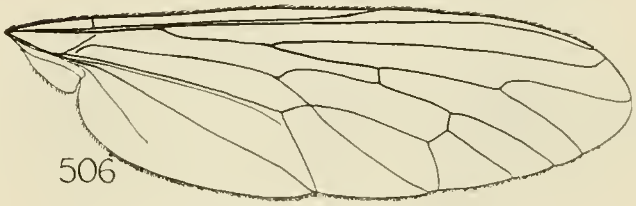

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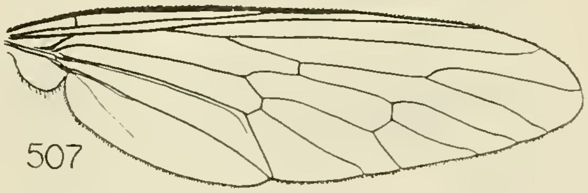

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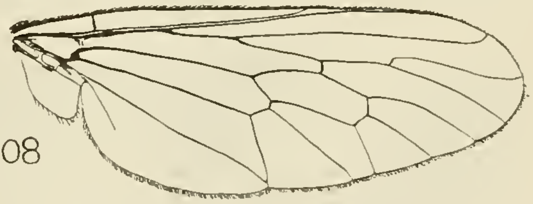

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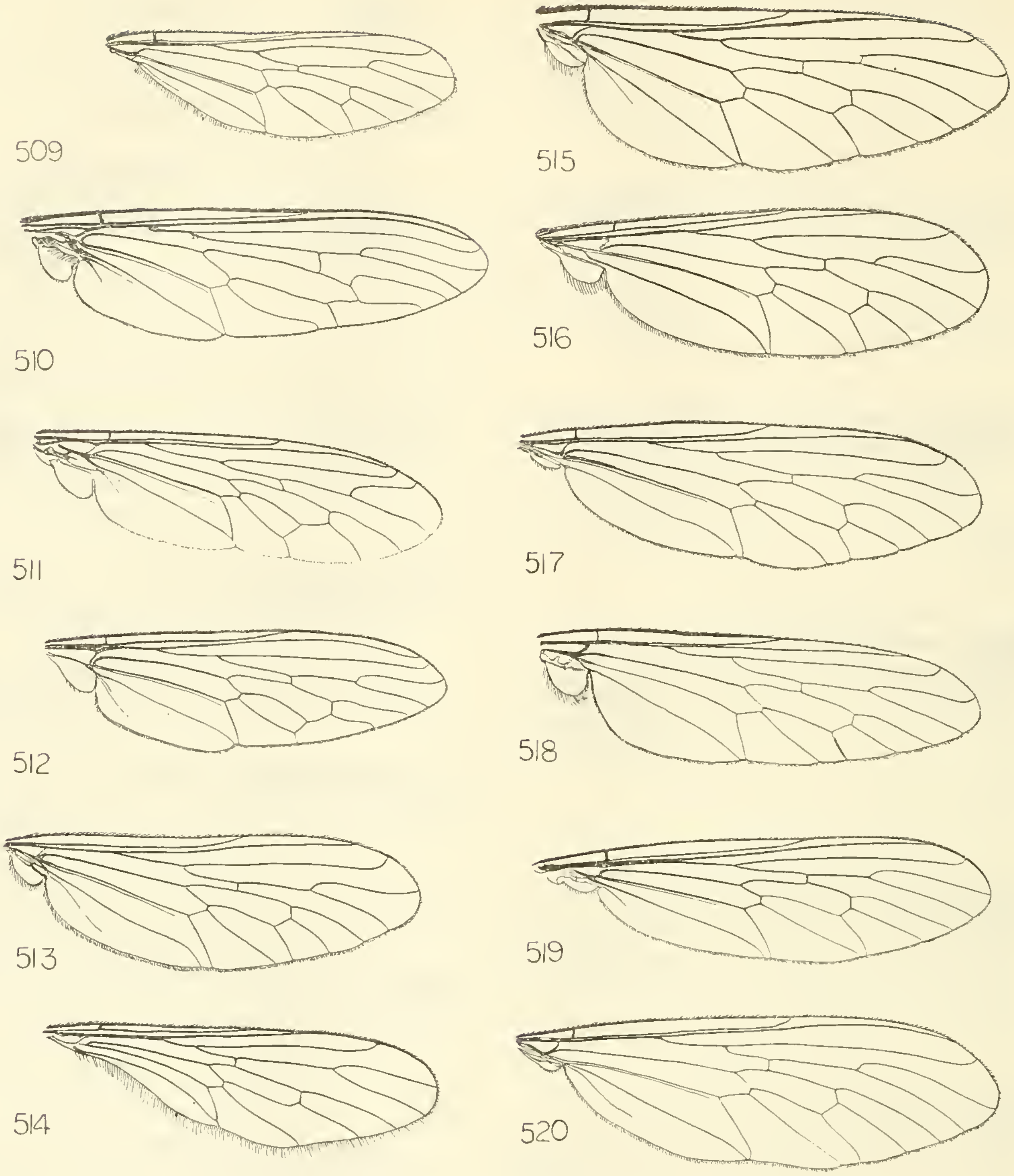
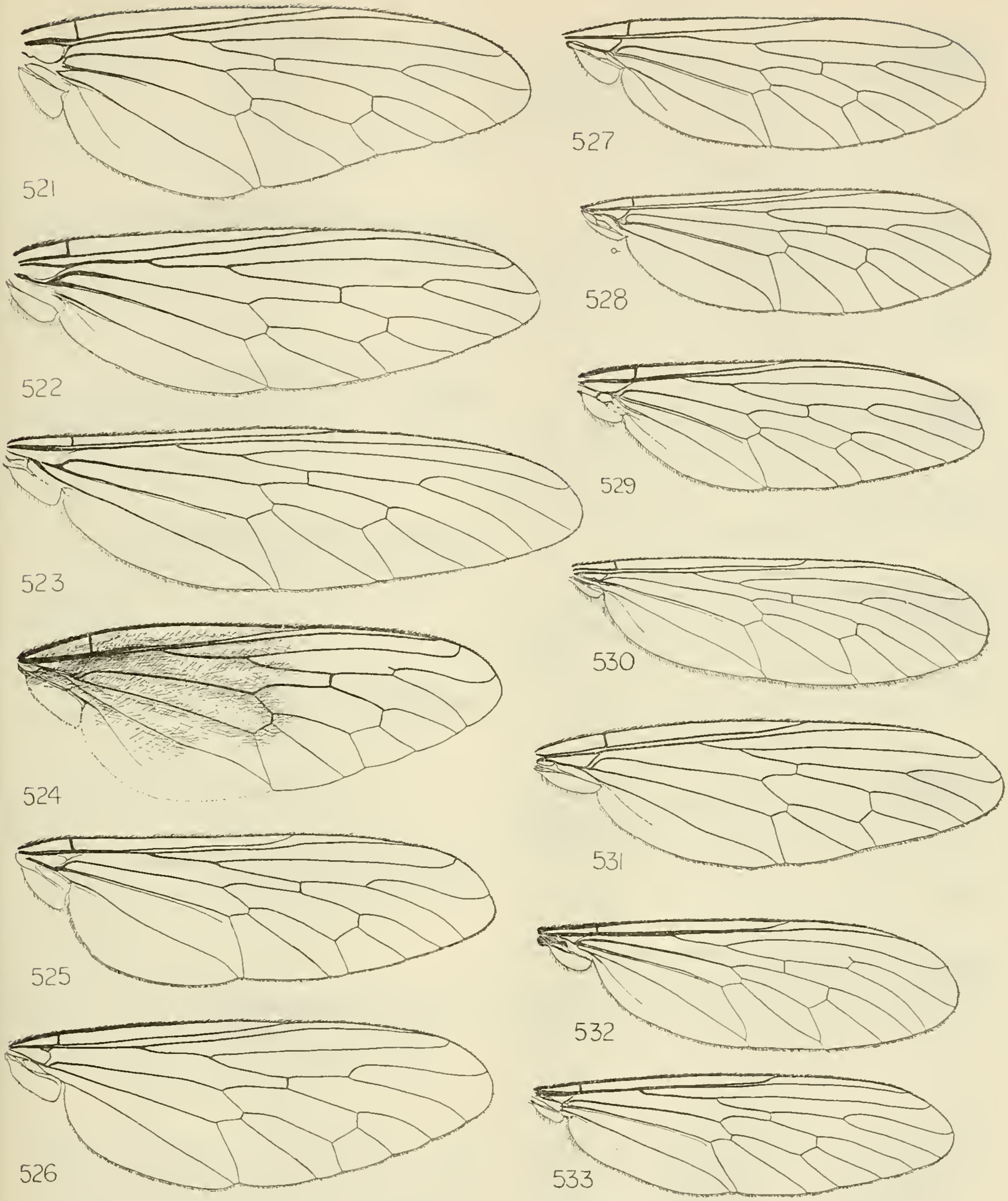
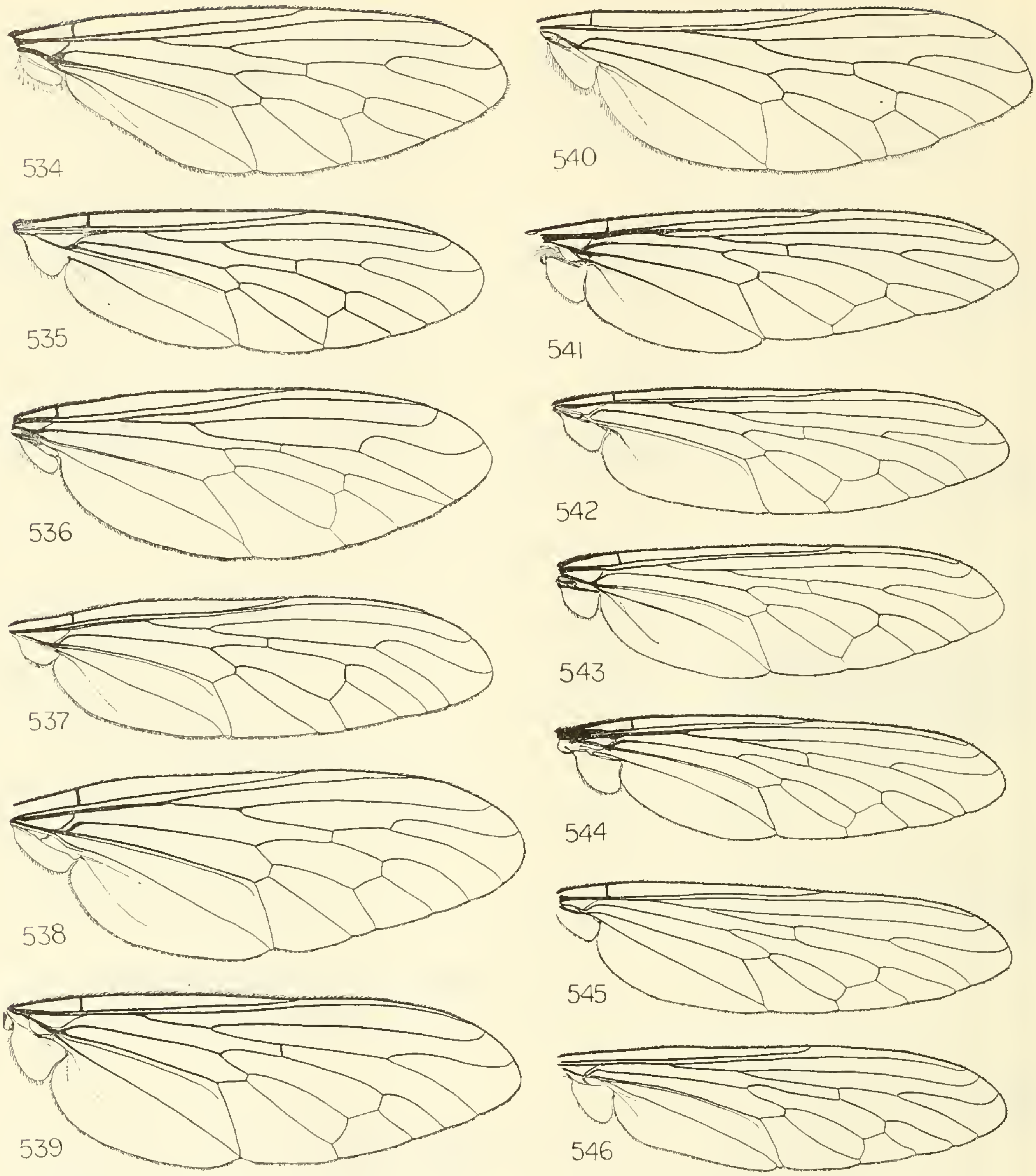
Figures 496–508.—496, *Ceraturgopsis oklahomensis* Bromley. 497, *Eriopogon laniger* Meigen. 498, *Jothopogon leucomallus* Loew. 499, *Pycnopogon mixtus* Loew. 500, *Harpagobroma fumosa*, new species. 501, *Sisyrnodytes niveipilosus* Ricardo. 502, *Grypoctonus lama* Speiser. 503, *Callinicus calcaneus* Loew. 504, *Toremyia scatophagoides* Walker. 505, *Rhabdogaster maculipennis* Engel. 506, *Plesiomma testaceum* Fabricius. 507, *Oldroydia hamata* Hull. 508, *Amphisbetetus dorsatus* Becker.



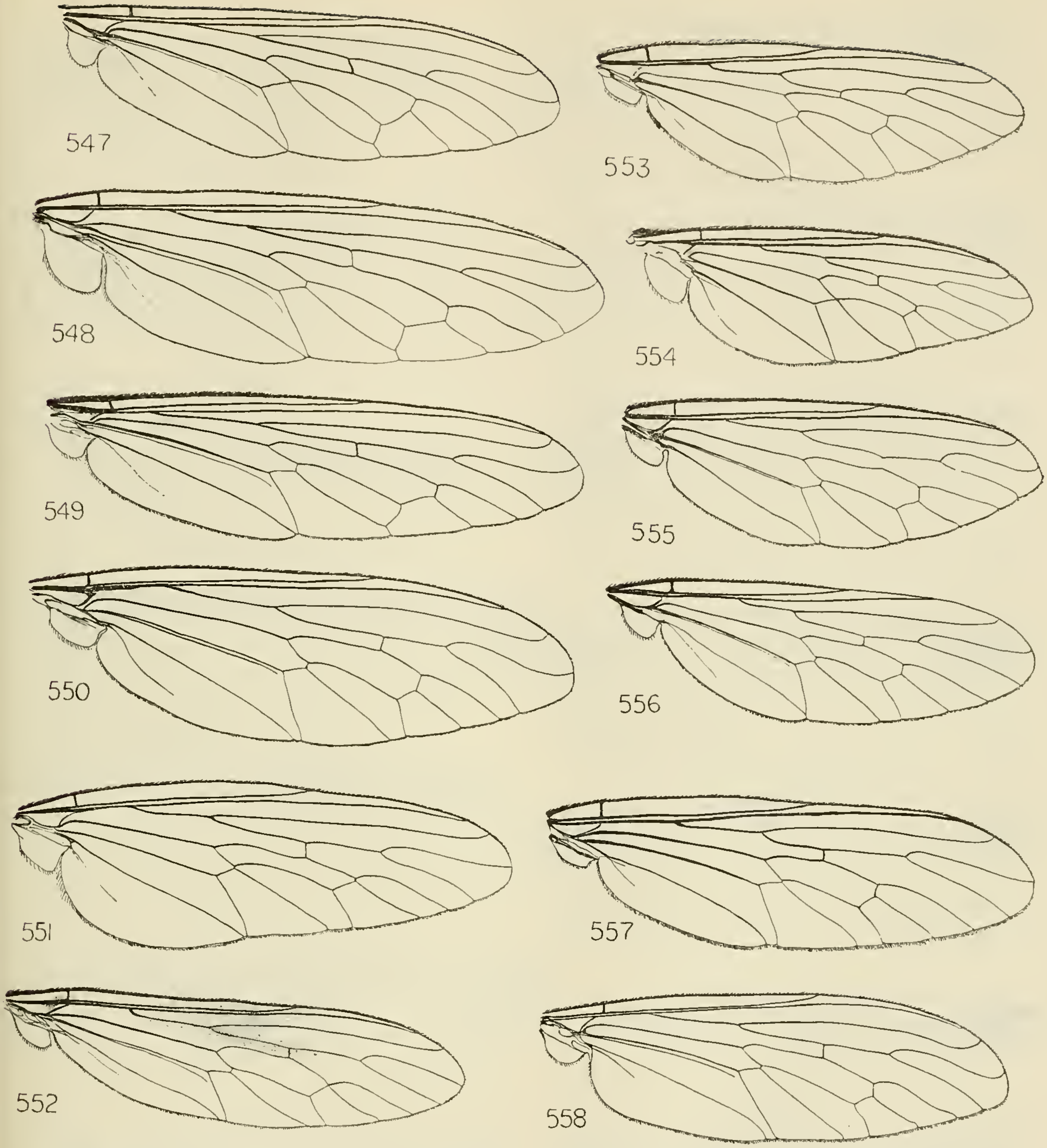
Figures 509–520.—509, *Stichopogon elegantulus* Meigen. 510, *Dakinomyia froggattii* Dakin and Fordham. 511, *Bathypogon asiliformis* Loew. 512, *Bathypogon* (*Creolestes*) *hirtuosus* Schiner. 513, *Habropogon striatus* Fabricius. 514, *Townsendia minuta* Williston. 515, *Mecynopus pulverulentus* Engel. 516, *Parataracticus rubidus* Cole. 517, *Coleomyia sculleni* Wilcox and Martin. 518, *Omninablautus arenosus* Pritchard. 519, *Austenmyia amazona* Carrera. 520, *Neolaparus bifidus* Wulp.



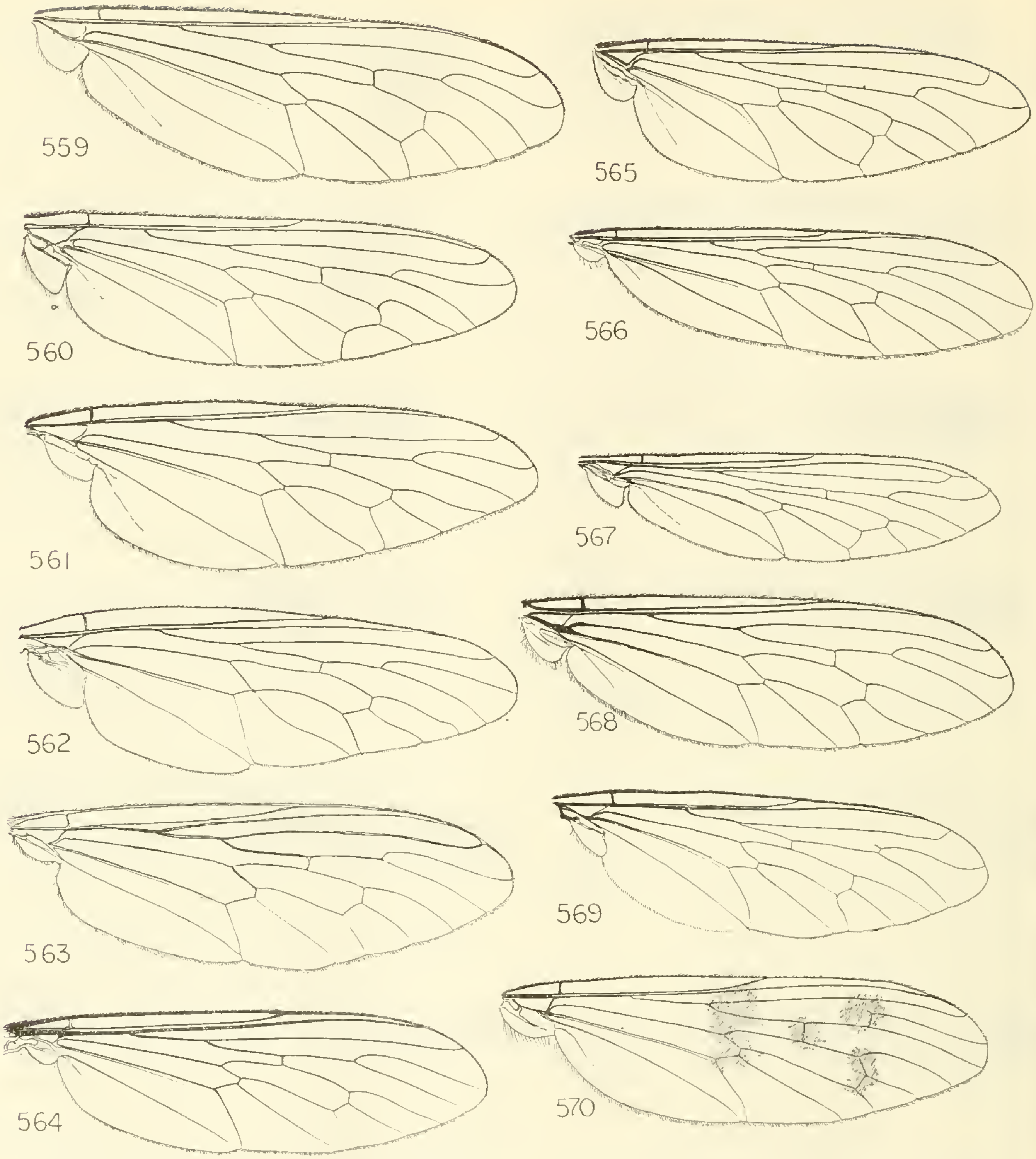
Figures 521–533.—521, *Ceraturgus cruciatus* Say. 522, *Heteropogon ornatipes* Loew. 523, *Lagodias teratodes* Hermann. 524, *Acnephalum andrenoides* Wiedemann. 525, *Lestomyia atripes* Wilcox. 526, *Anarolius jubatus* Loew. 527, *Paraterpogon punctatus* Paramonov, in litt. 528, *Archilaphria ava* Enderlein. 529, *Cophura acapulcae* Pritchard. 530, *Mirolestes lynchii* Brethes. 531, *Cyrtopogon ruficornis* Fabricius. 532, *Deromyia gracilis* Philippi. 533, *Austrosaropogon claviger* Hardy.



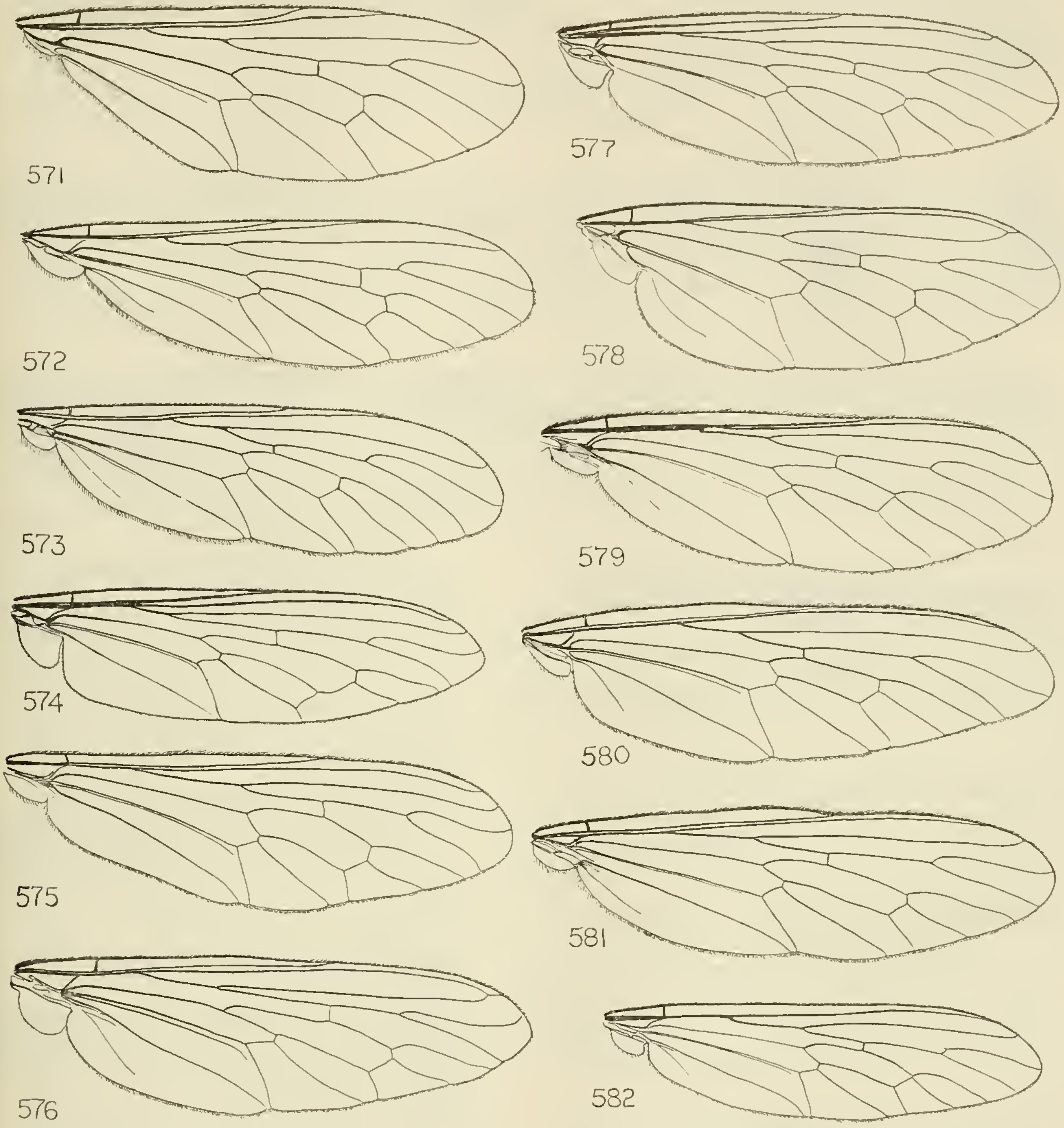
Figures 534–546.—534, *Ancylorrhynchus glaucius* Rossi. 535, *Lycostomus albifacies* Hermann. 536, *Helolaphyctis* sp. 537, *Molobratia teutonus* Linné. 538, *Crobilocerus megilliformis* Loew. 539, *Caenarolia basalis* Curran. 540, *Ablautus trifarius* Loew. 541, *Neodiogmites melanogaster* Wiedemann. 542, *Allopogon vittatus* Wiedemann. 543, *Blepharepium coarctatum* Perty. 544, *Lastaurina ardens* Wiedemann. 545, *Lastauroides hirtuosus* Wiedemann. 546, *Chylophaga australis* Ricardo.



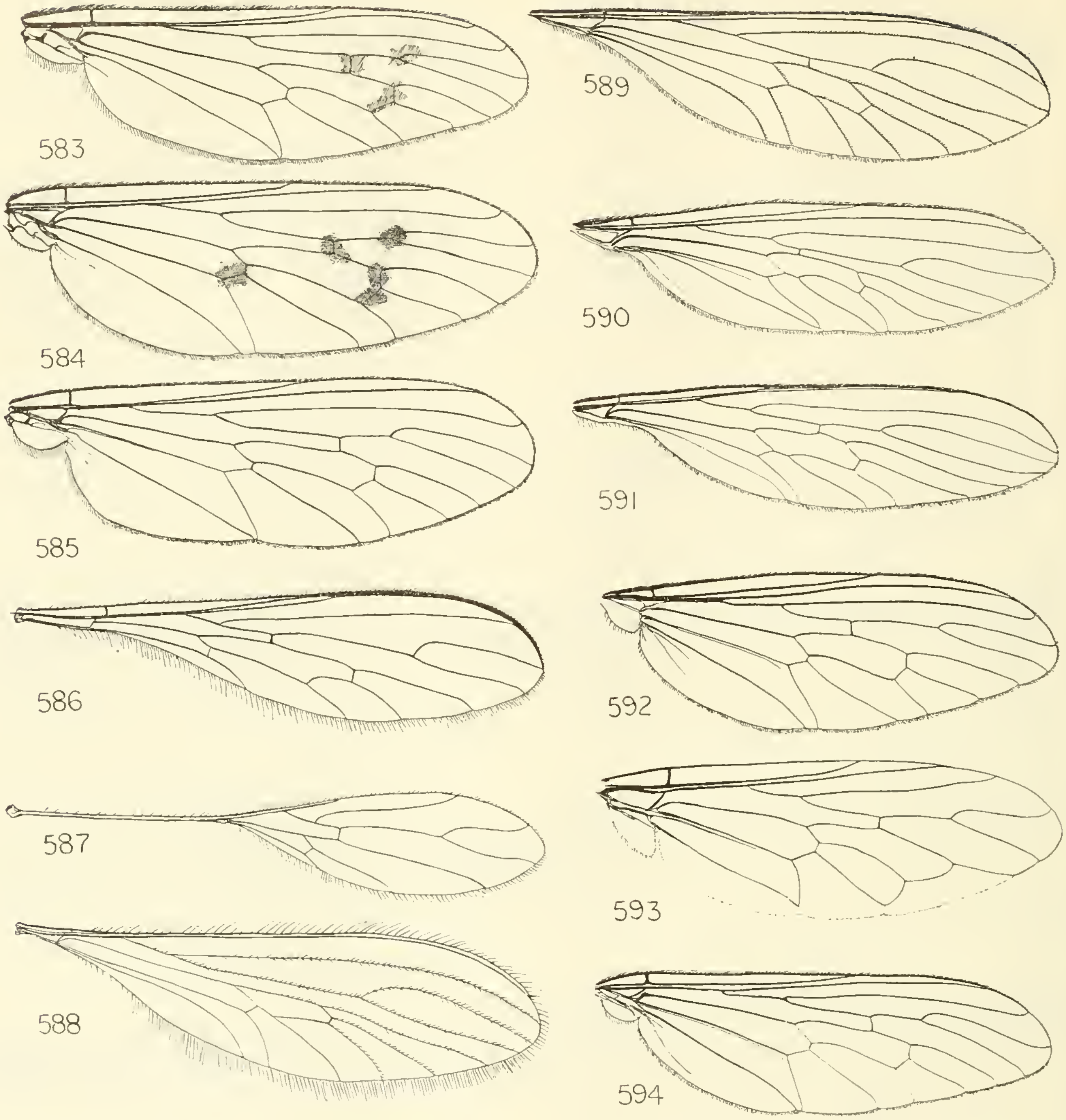
Figures 547–558.—547, *Blepharepium coarctatum* Perty. 548, *Lastaurus anthracinus* Loew. 549, *Diogmites ternatus* Loew. 550, *Neocyrtopogon bifasciatus* Ricardo. 551, *Rachiopogon grantii* Newman. 552, *Cyrtophrys* sp. 553, *Aterpogon* sp. 554, *Aphamartania frauenfeldi* Schiner. 555, *Araiopogon gayi* Macquart. 556, *Hodophylax aridus* James. 557, *Aterpogon* sp. 558, *Aczelia argentina* Wulp.



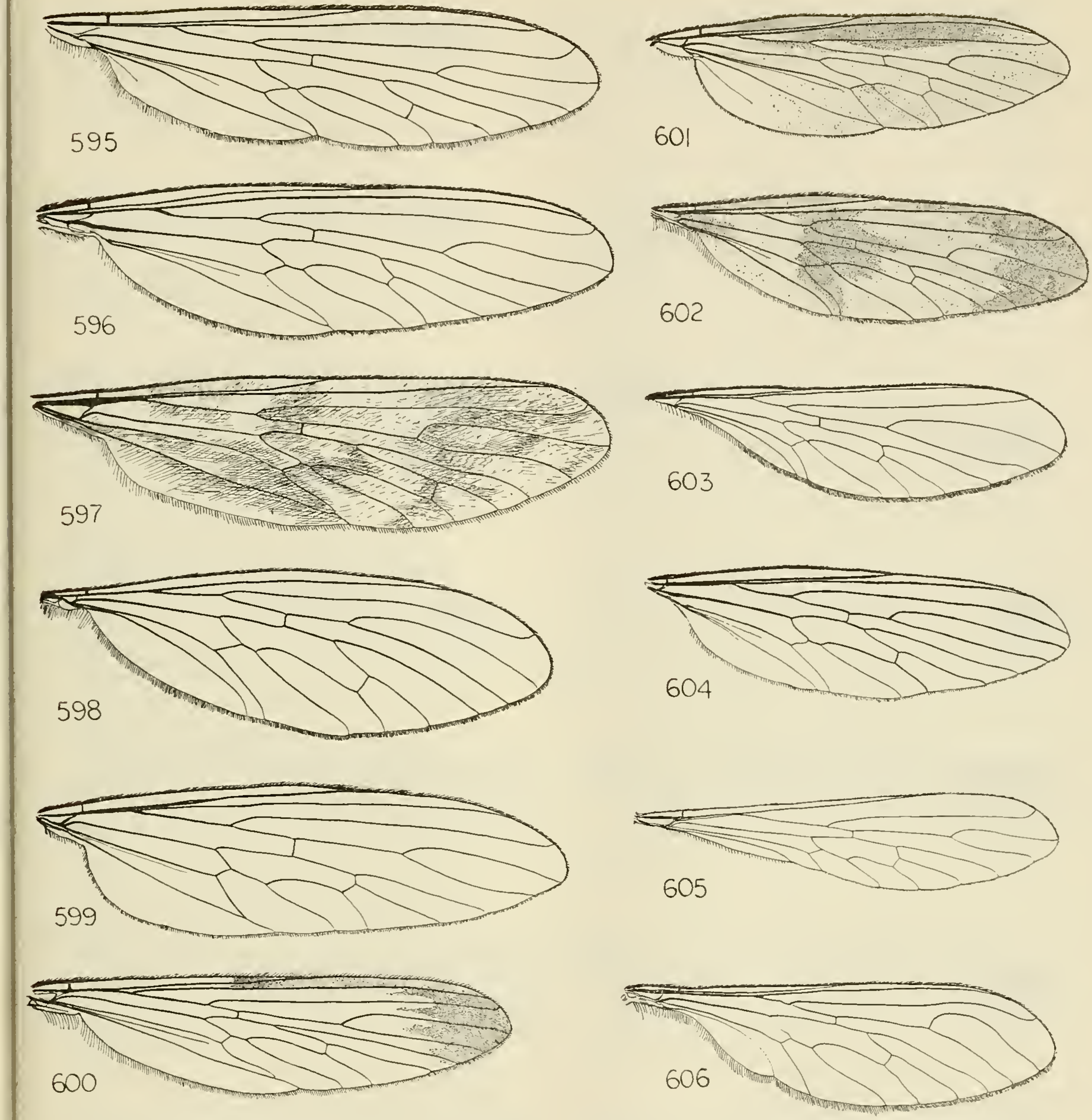
Figures 559–570.—559, *Saropogon obscuripennis* Meigen. 560, *Stizochymus salinator* Walker. 561, *Aphamartania maculipennis* Macquart. 562, *Annamyia maren* Pritchard. 563, *Paraphamartania syriaca* Engel. 564, *Tocantinia miser* Walker. 565, *Psilocurus* sp. 566, *Cyrtophrys attenuatus* Loew. 567, *Enigmomorpheus paradoxus* Hermann. 568, *Scylaticus costalis* Wiedemann. 569, *Hystrichopogon hirticeps* Hermann. 570, *Metapogon gibber* Williston.



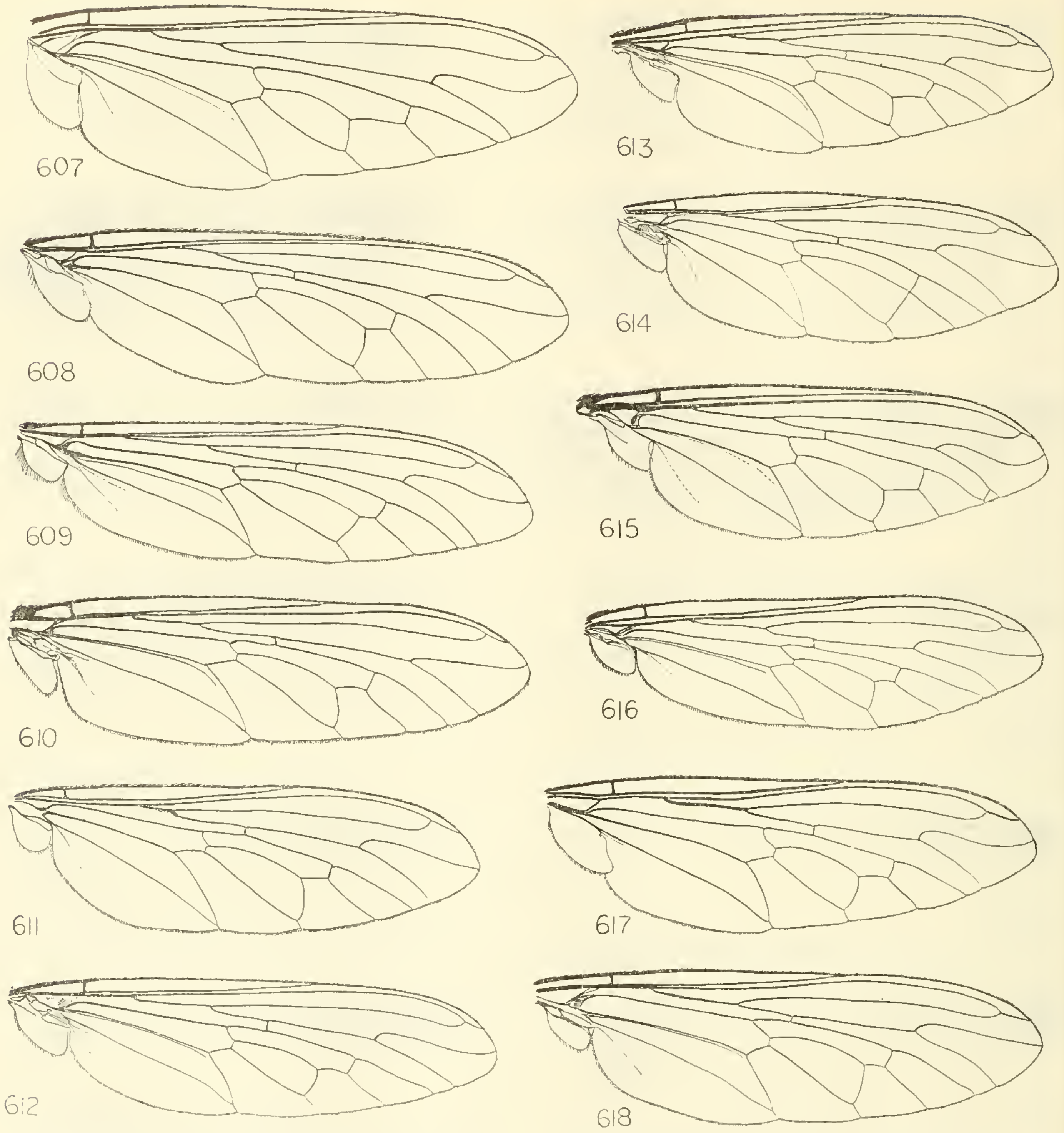
Figures 571–582.—571, *Taracticus octopunctatus* Say. 572, *Nicocles pictus* Loew. 573, *Neolaparus pulchriventris* Loew. 574, *Phonicocleptes busiris* Lynch Arribálzaga. 575, *Erythropogon australis* Macquart. 576, *Thereutria amaracus* Walker. 577, *Cleptomyia bacillifera* Carrera. 578, *Metalaphria australis* Ricardo. 579, *Cabaza pulchella* Macquart. 580, *Pegesimallus claelius* Walker. 581, *Brachyrrhopala fenestrata* Macquart. 582, *Erythropogon ichneumoniformis* White.



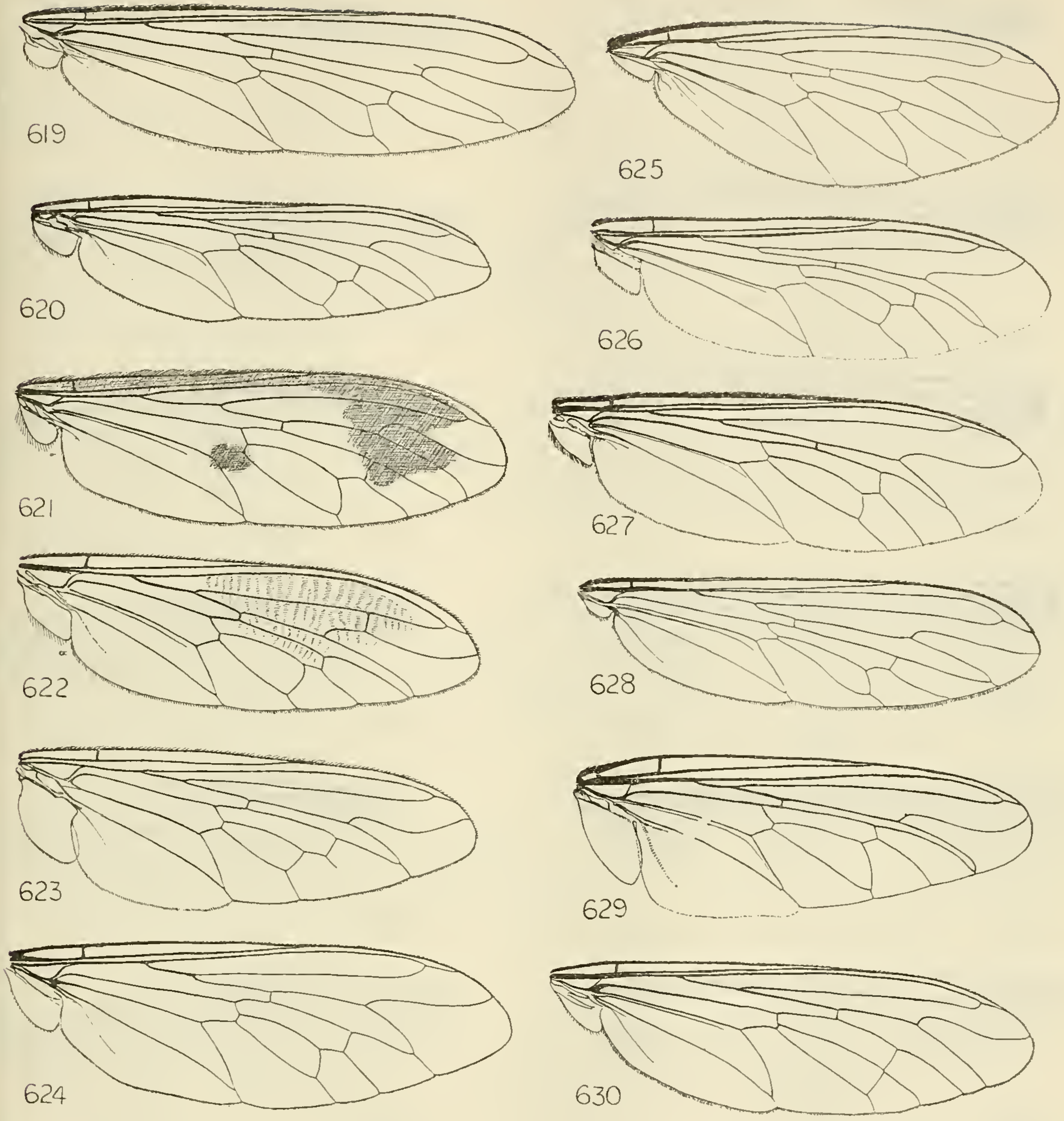
Figures 583–594.—583, *Eucyrtopogon* sp. 584, *Backomyia limpidipennis* Wilcox and Martin. 585, *Wilcoxia* sp. 586, *Leptopteromyia americana* Hardy. 587, *Eurhabdus zephyreus* Aldrich. 588, *Schildia microthorax* Aldrich. 589, *Shannomyioleptus fragilis* Carrera. 590, *Leptogaster magnicollis* Walker. 591, *Leptogaster* sp. 592, *Brachyrrhopala bella* White. 593, *Itolia maculata* Wilcox. 594, *Taracticus nigrimystaceus* Williston.



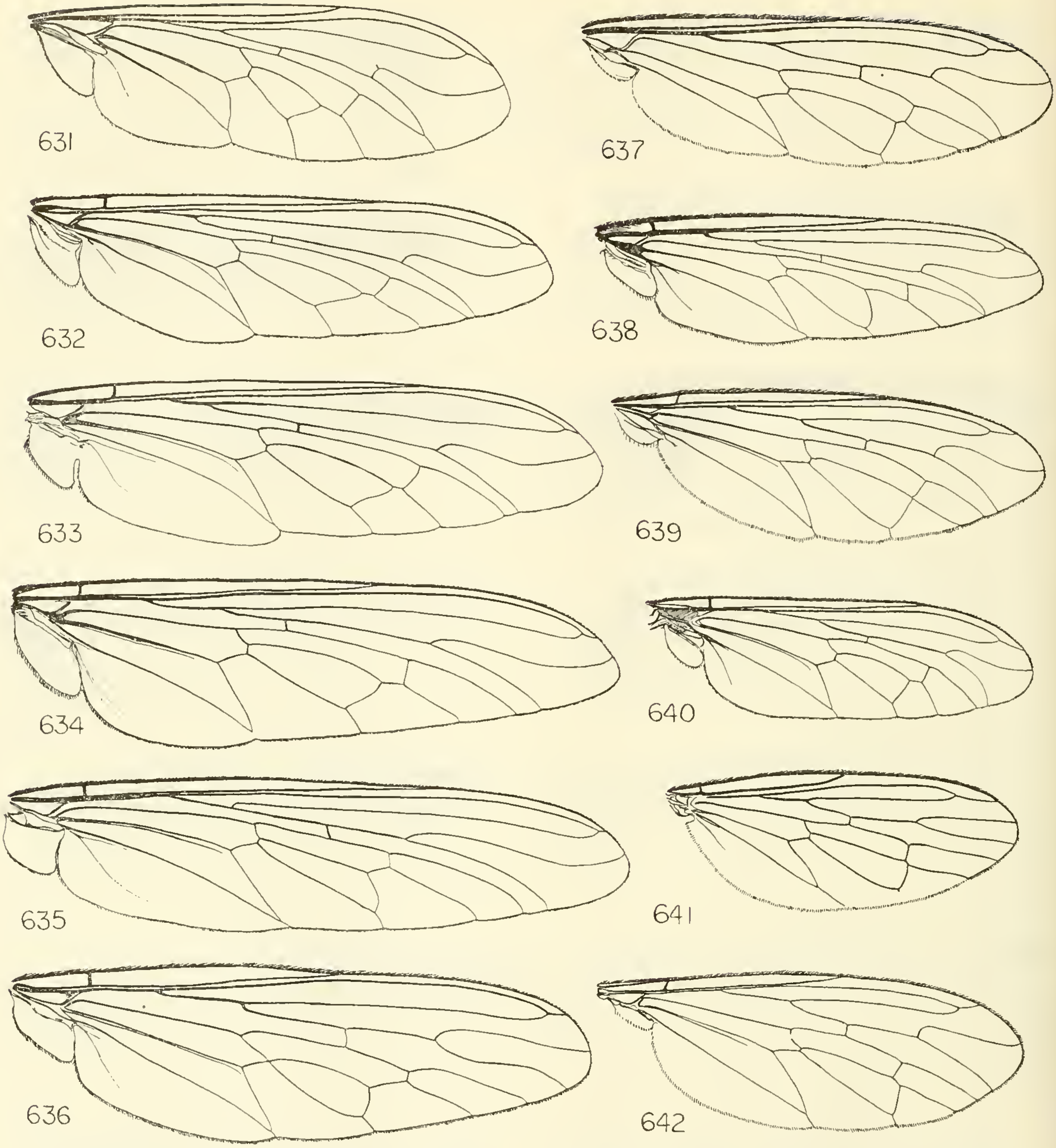
Figures 595–606.—595, *Euscelidia rapax* Westwood. 596, *Lagynogaster sauteri* Hermann. 597, *Lasiocnemis* sp. 598, *Leptogaster cylindrica* De Géer. 599, *Ophionomima solocifemur* Enderlein. 600, *Ammophilomima* sp. 601, *Acronyches imitator* Hermann. 602, *Systellogaster fascipennis* Hermann. 603, *Psilonyx annulatus* Say. 604, *Mesoleptogaster fuscatipennis* Frey. 605, *Dolichoscius* sp. 606, *Leptogaster* sp.



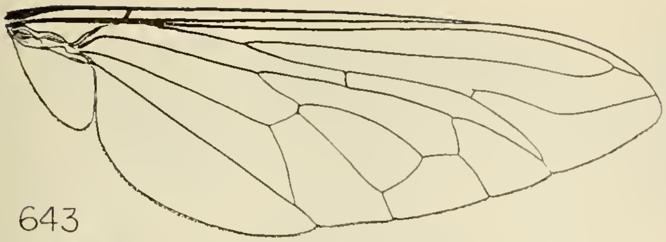
FIGURES 607–618.—607, *Laphria gibbosus* Linné. 608, *Choerades reinwardti* Wiedemann. 609, *Anisosis producta* Walker. 610, *Pagidolaphria horrida* Walker. 611, *Maira spectabilis* Guérin. 612, *Lampria clavipes* Fabricius. 613, *Bombomima fulvithorax* Fabricius. 614, *Orthogonis scapularis* Wiedemann. 615, *Dassylina fulvithorax* Bromley. 616, *Pholidotus rubriventris* Hermann. 617, *Storthyngomerus dymes* Walker. 618, *Pholidotus anceps* Hermann.



FIGURES 619–630.—619, *Rhopalogaster longicornis* Wiedemann. 620, *Smeryngolaphria* sp. 621, *Borapisma chinai* Hull. 622, *Pogonosoma maroccanum* Fabricius. 623, *Ctenota molitrix* Loew. 624, *Laxenecera albicincta* Loew. 625, *Rhopalogaster* sp. 626, *Nusa leucophaea* Lynch Arribálzaga. 627, *Nusa aequalis* Walker. 628, *Phellopteron farri*, new species. 629, *Dasylechia atrox* Williston. 630, *Anypodetus fasciatus* Hermann.



FIGURES 631–642.—631, *Paractenota efflatouni* Engel. 632, *Lamyra gulo* Loew. 633, *Stiphrolamyra rubicunda* Oldroyd. 634, *Proagonistes athletes* Speiser. 635, *Megapoda labiata* Fabricius. 636, *Neoitamus cyanurus* Loew. 637, *Atomosia puella* Wiedemann. 638, *Pilica formidolosa* Walker. 639, *Paratractia dasypus* Wiedemann. 640, *Systropalpus aurivulpes*, new species. 641, *Cyphotomyia lynchii* Williston. 642, *Hodites punctissima*, new species.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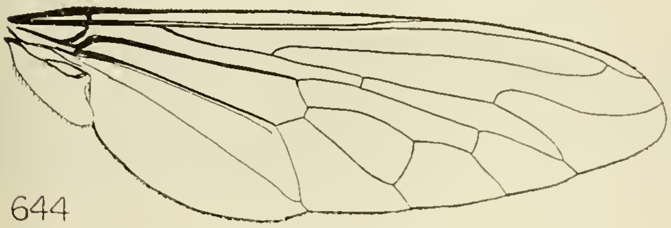
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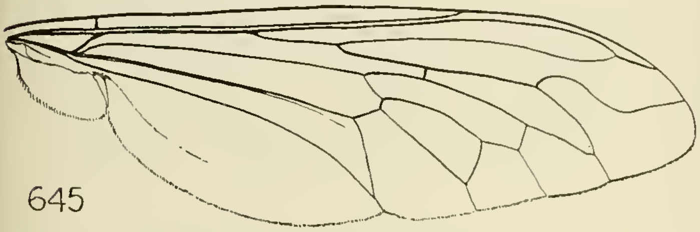
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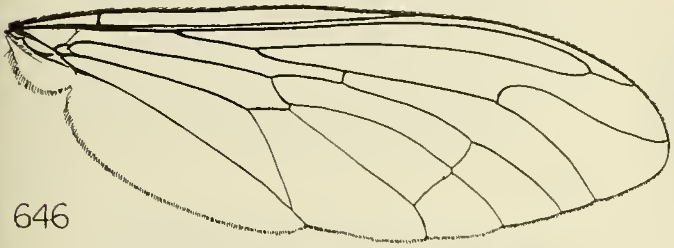
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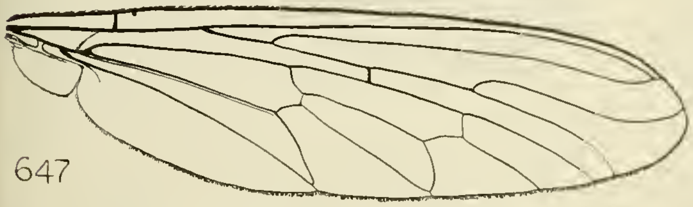
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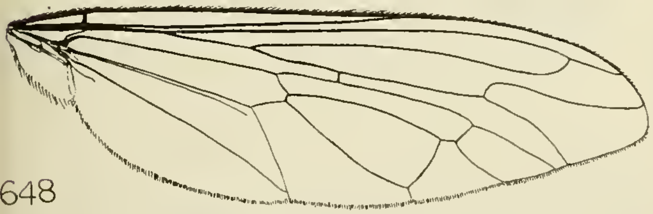
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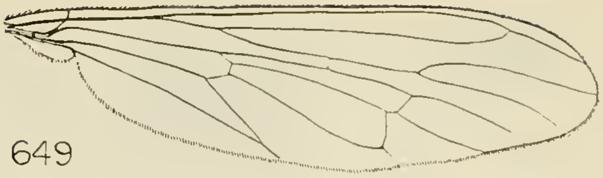
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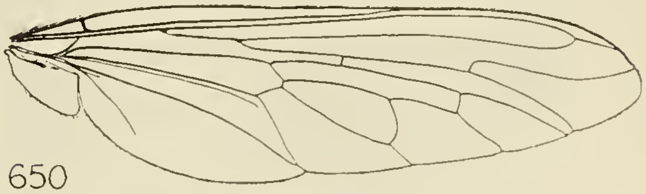
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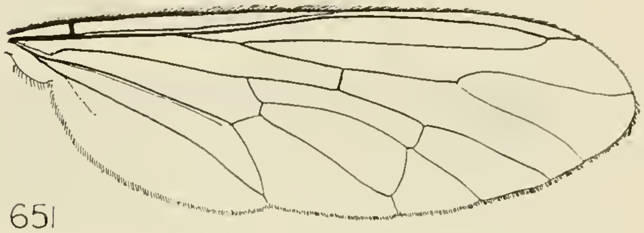
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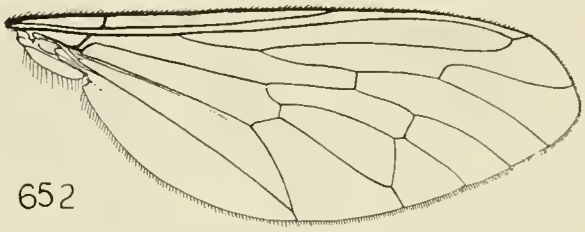
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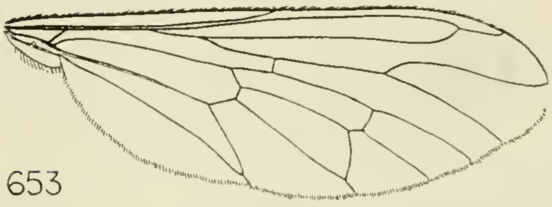
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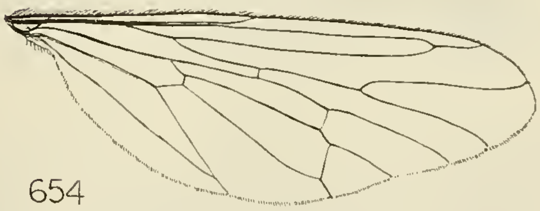
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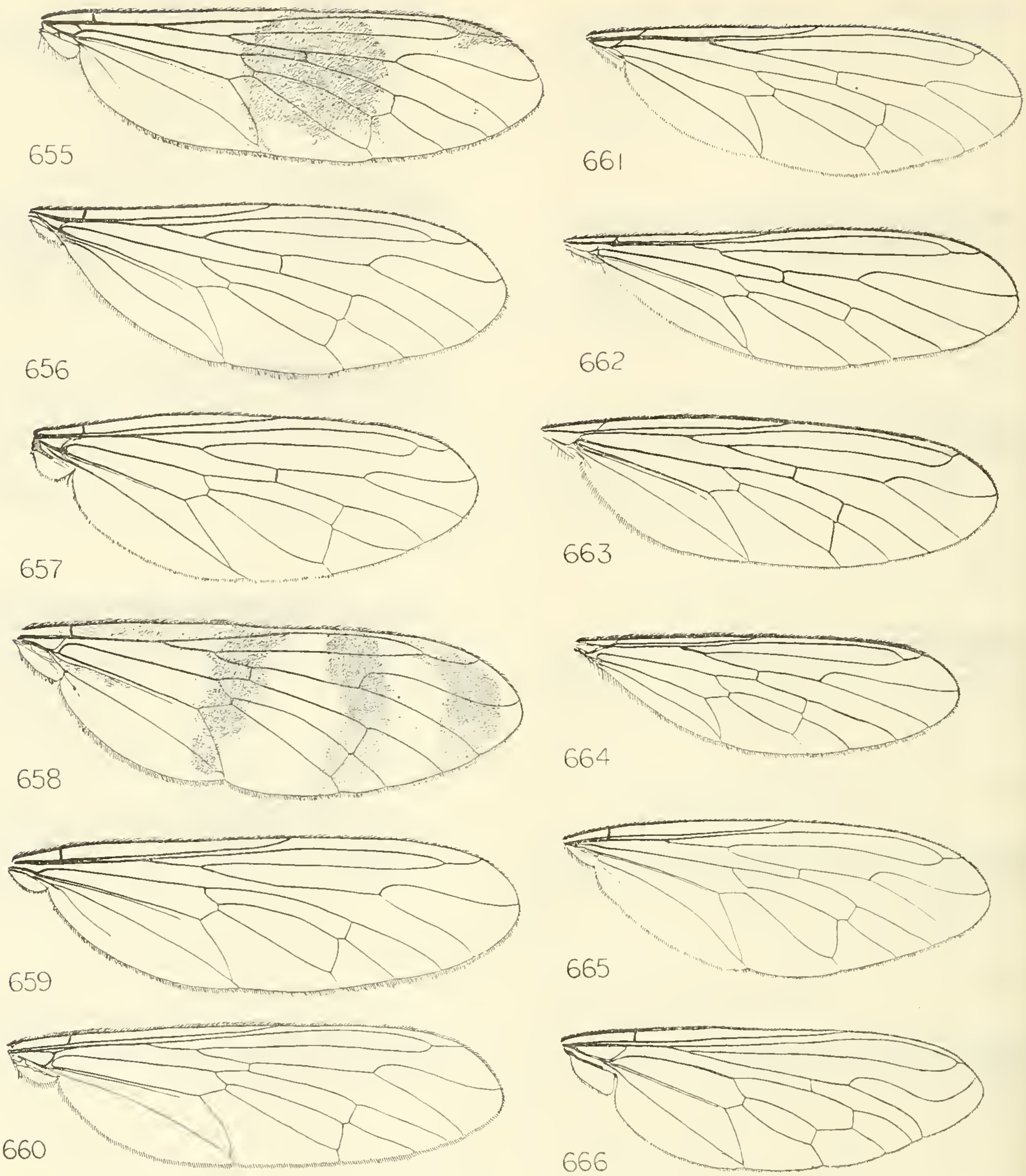

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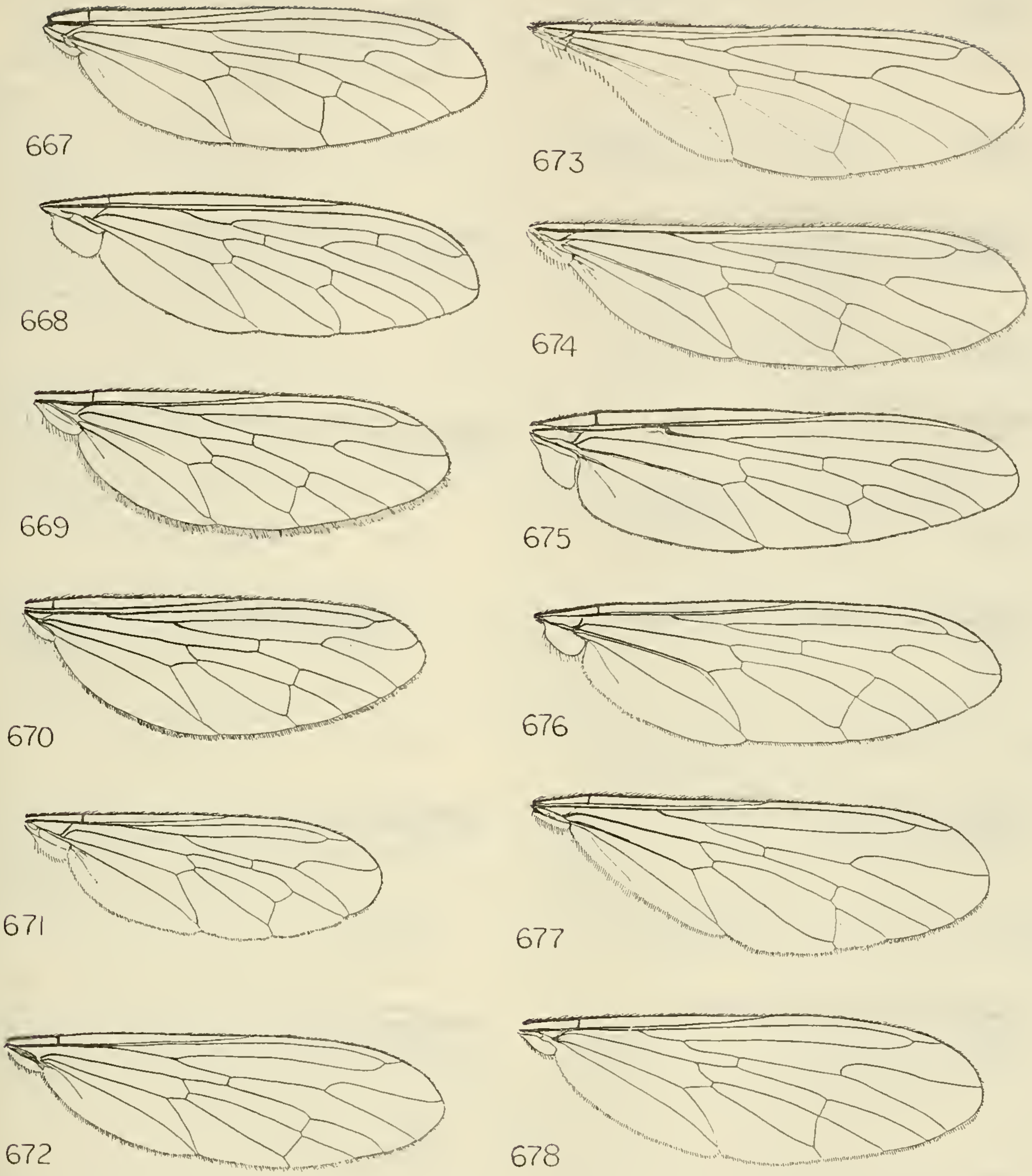

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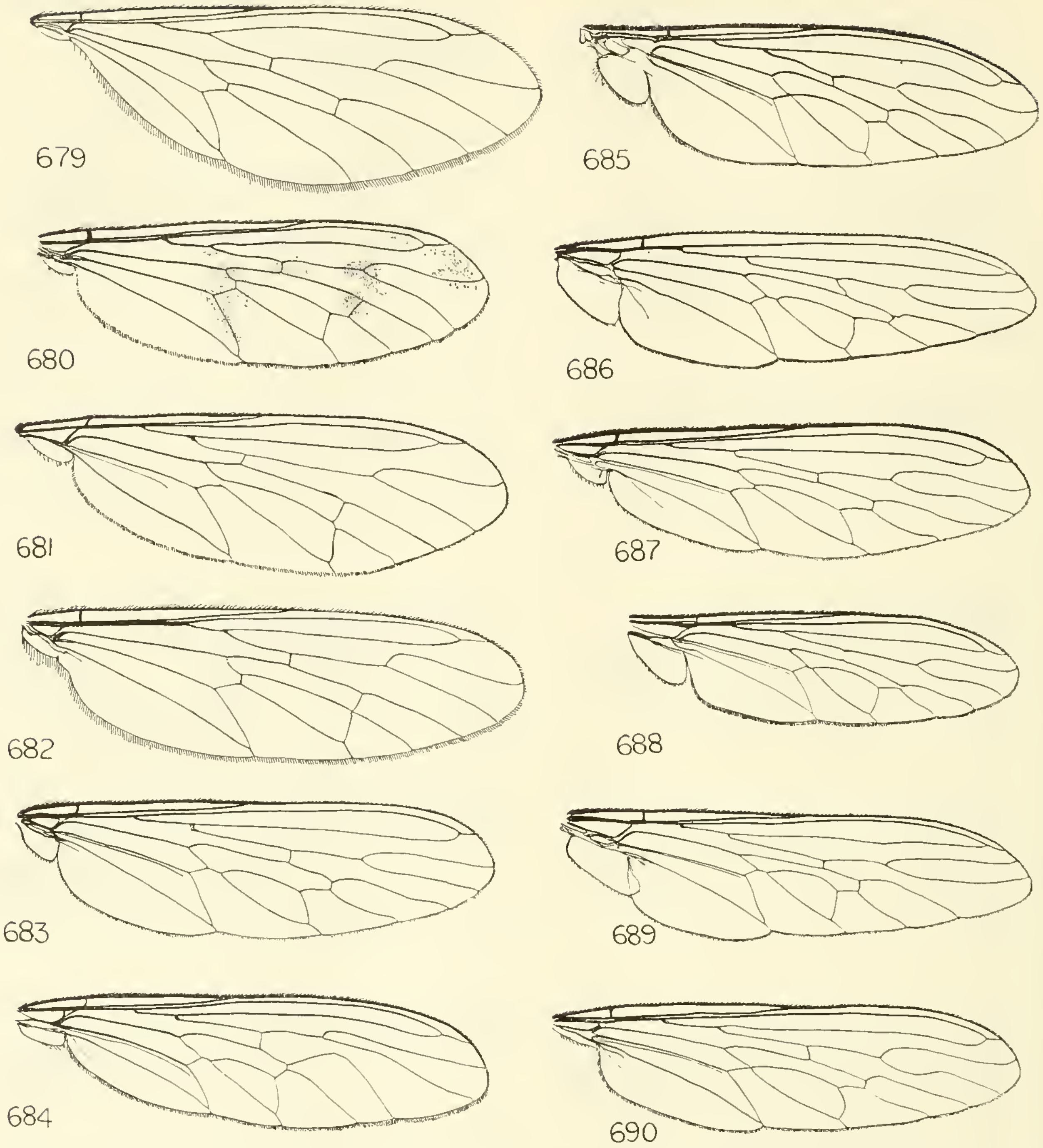

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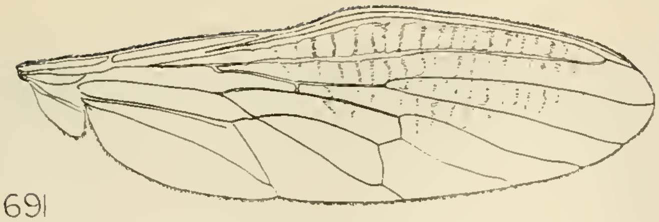
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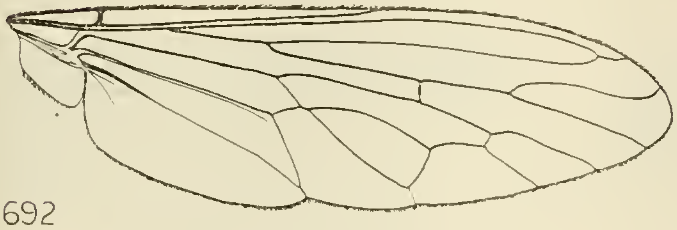
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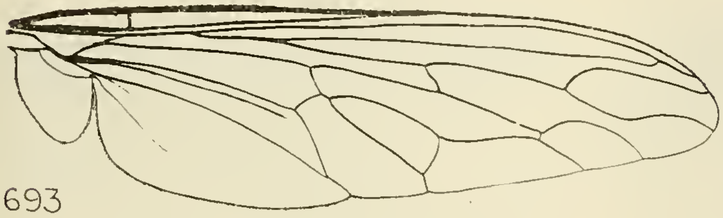
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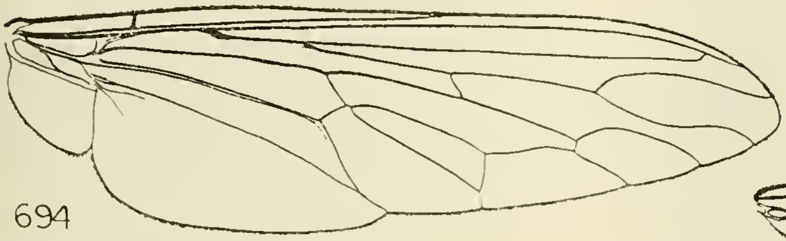
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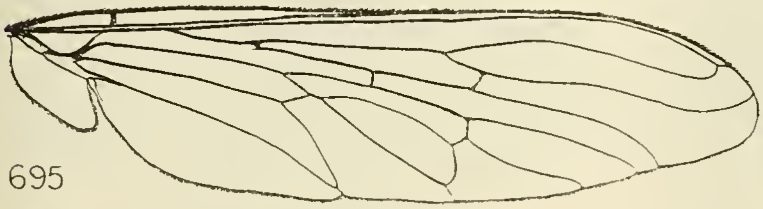
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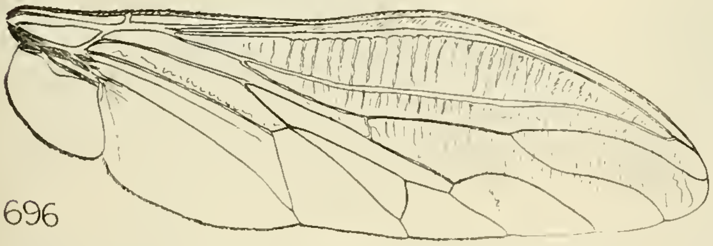
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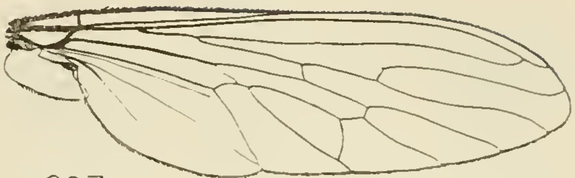
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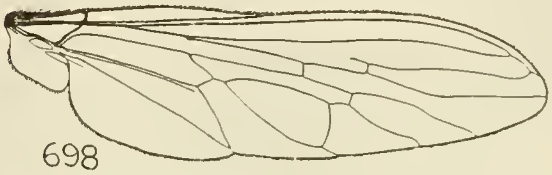
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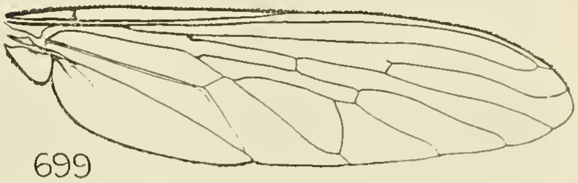
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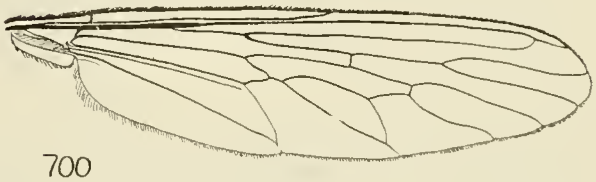
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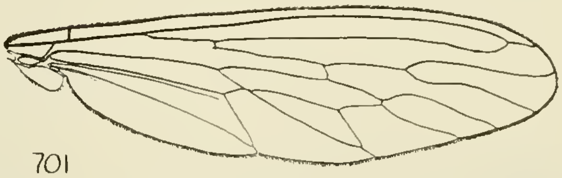
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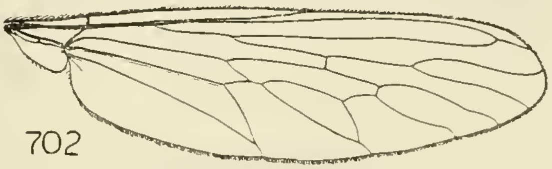
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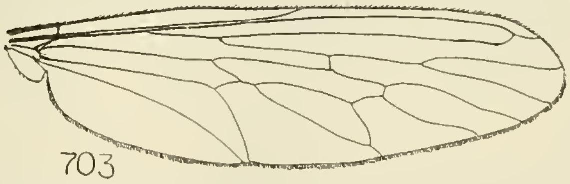
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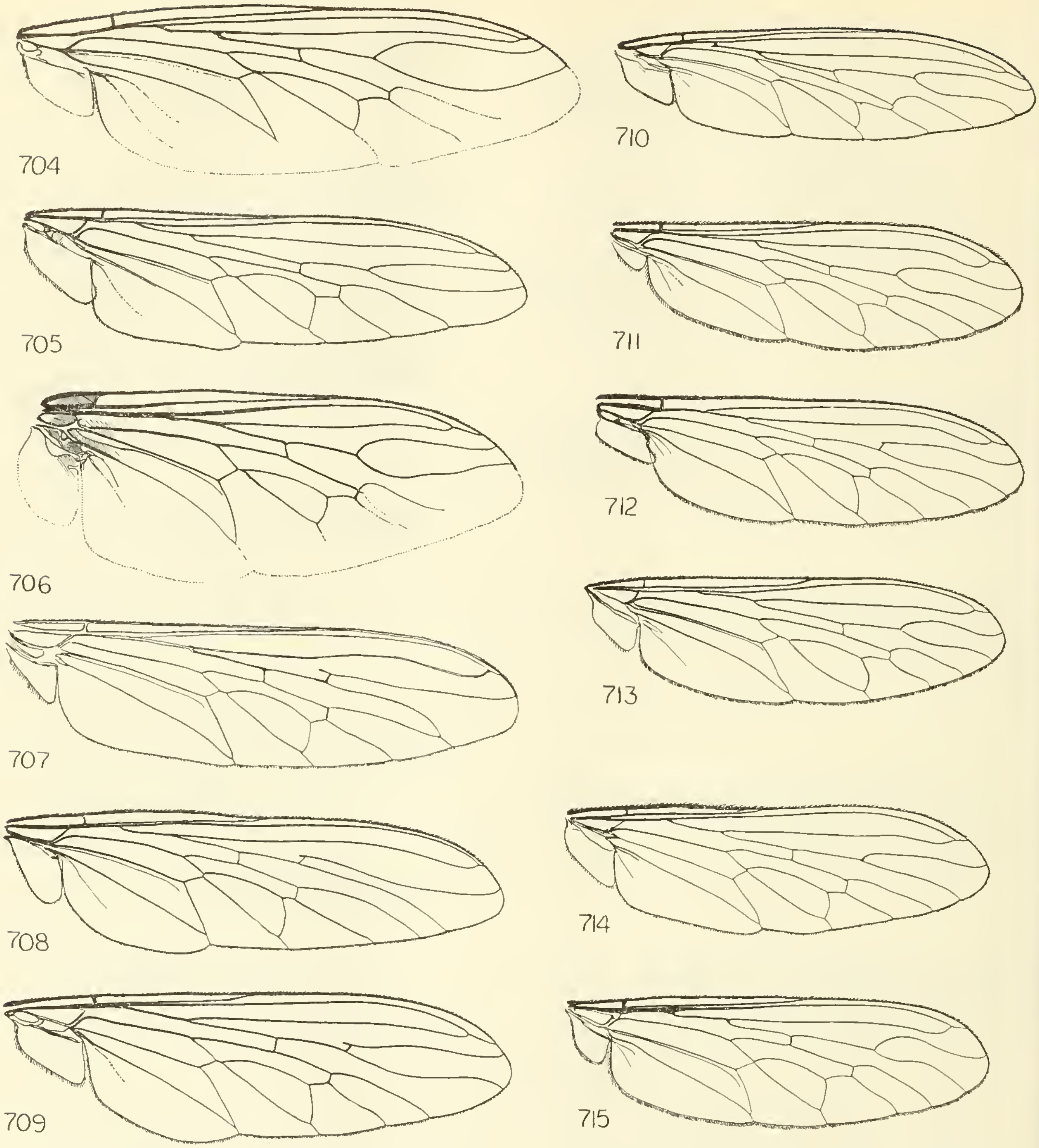
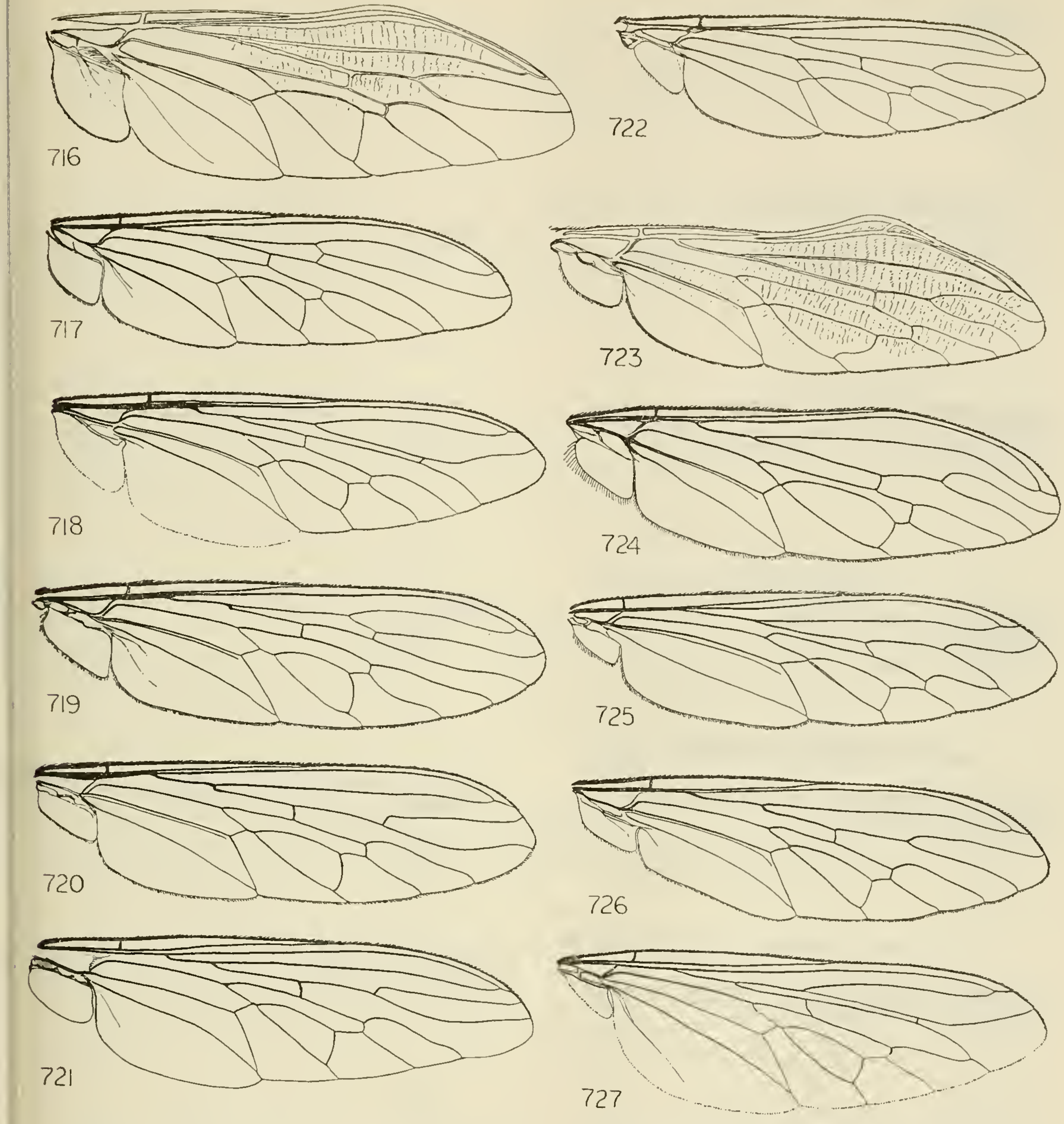


Figures 704–715.—704, *Satanas gigas* Eversmann. 705, *Philonerax mucidus* Walker. 706, *Polysarca violacea* Schiner. 707, *Apoclea algira* Linné. 708, *Anacinaces gigas* Enderlein. 709, *Porasilus barbiellinii* Curran. 710, *Neoaratus hercules* Wiedemann, female. 711, *Cerdistus erythrurus* Meigen. 712, *Cerozodus nodicornis* Wiedemann. 713, *Cerdistus pallidus* Efflatoun. 714, *Hobbyus nigroflavipes* Hobby. 715, *Cerdistus xanthocerus* Williston.



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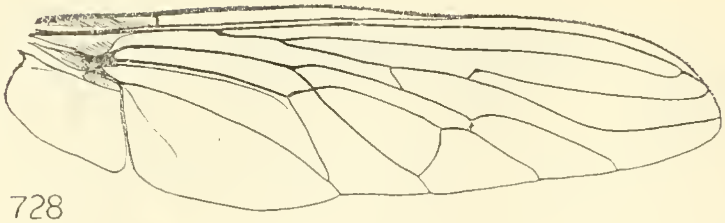

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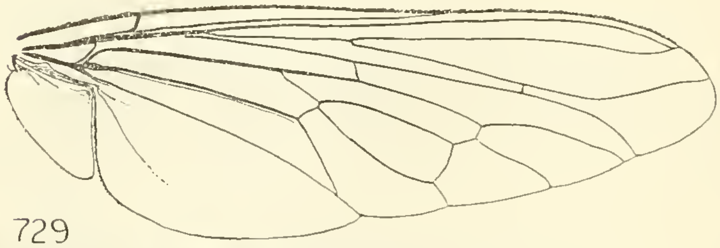

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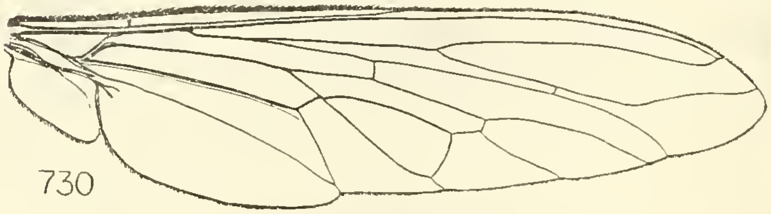

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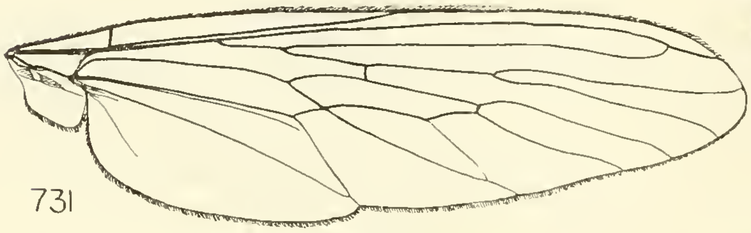

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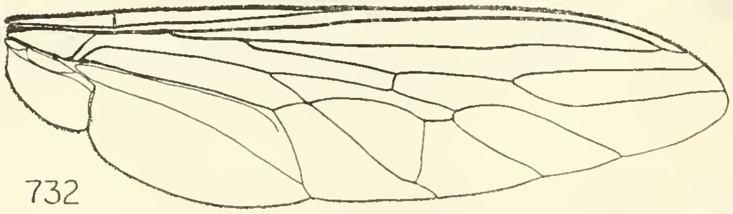

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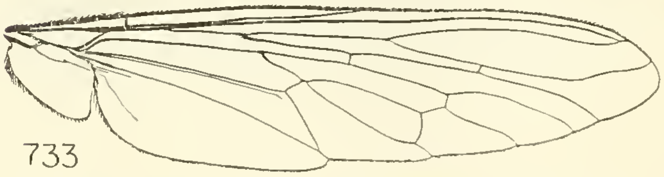

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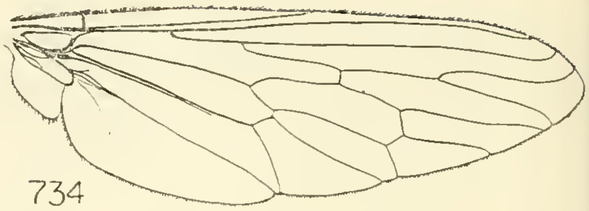

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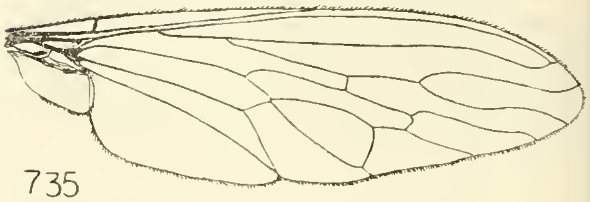

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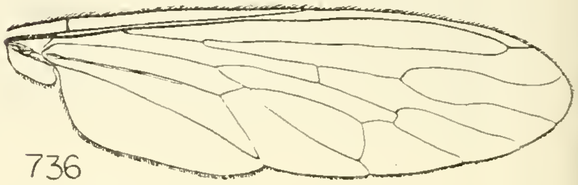

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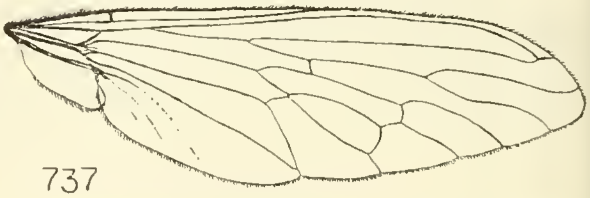

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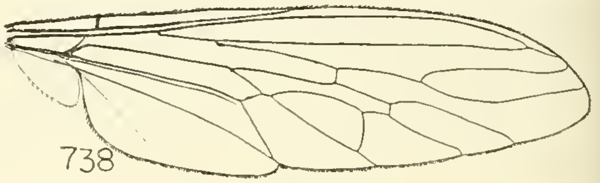

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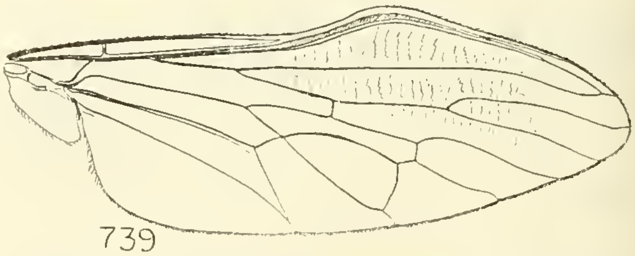

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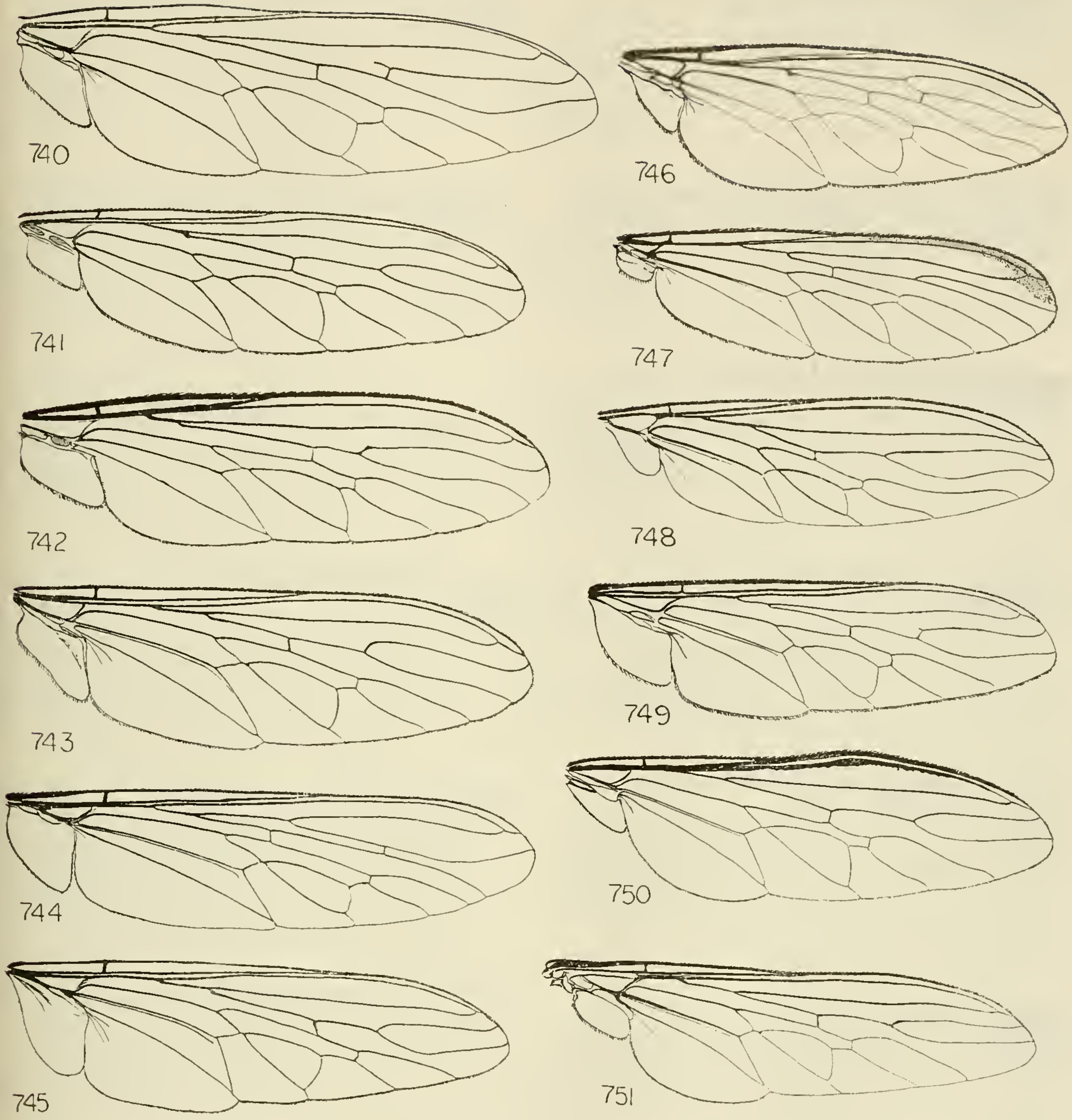
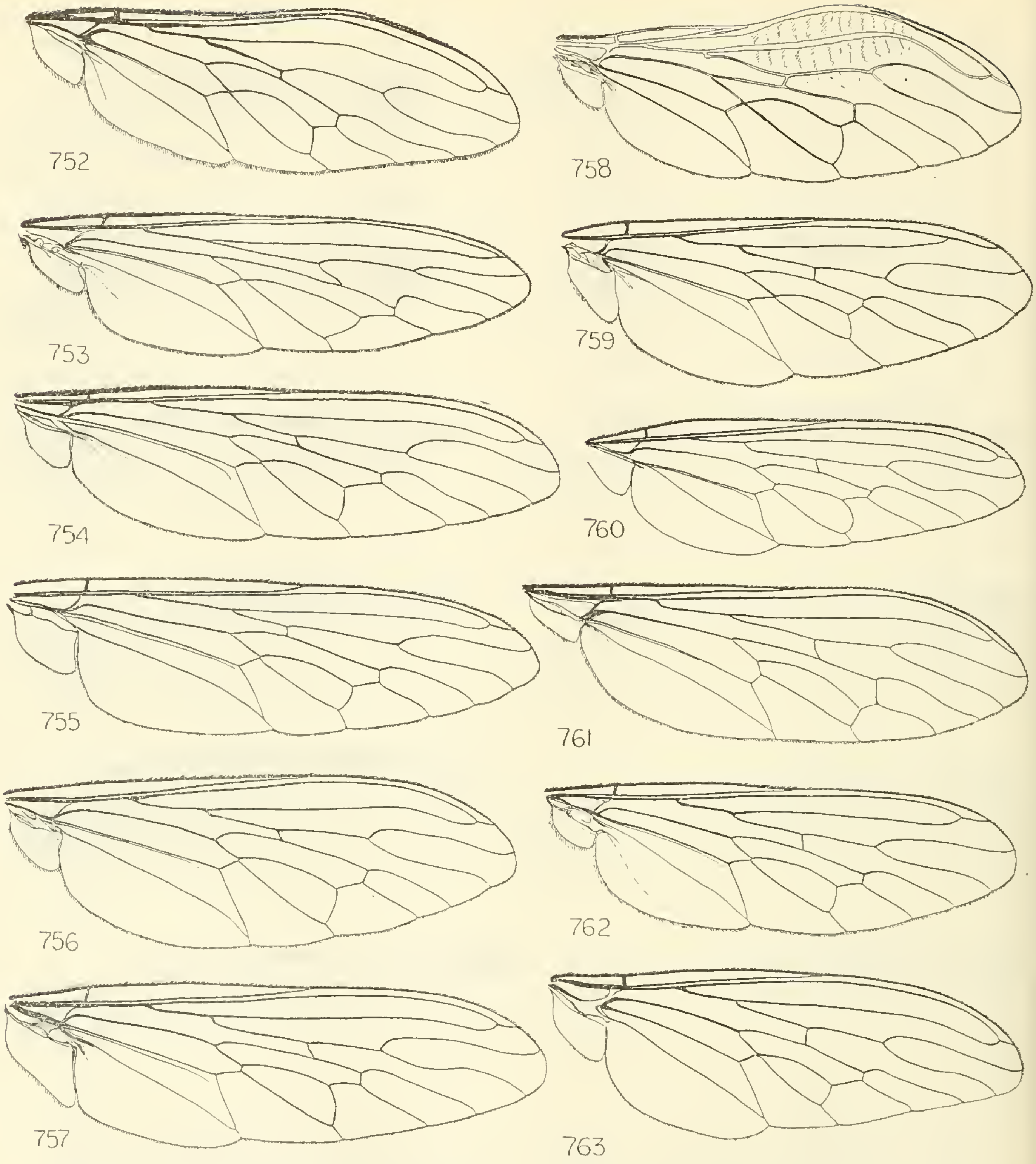
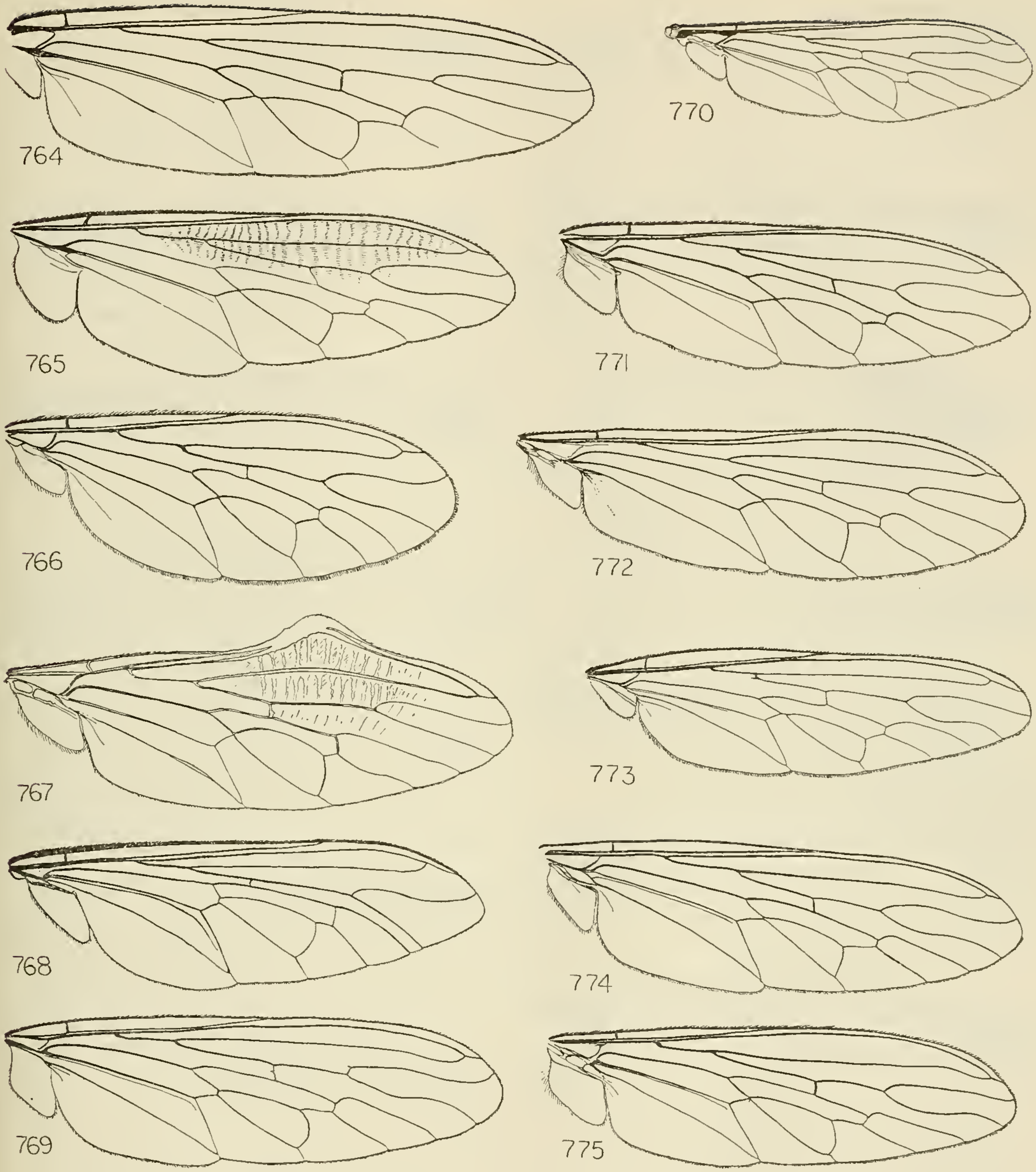
FIGURES 728–739.—728, *Eccritosia amphinome* Walker. 729, *Mallophora bromleyi* Curran. 730, *Trypanoides yerburiensis* Ricardo. 731, *Glaphyropyga himantocera* Wiedemann. 732, *Lochmorhynchus senectus* Wulp. 733, *Philomachus vagator* Wiedemann. 734, *Trichomachimus pubescens* Ricardo. 735, *Dinozabrus bicolor*, new species. 736, *Epitriptus cingulatus* Fabricius. 737, *Cratopoda gayi* Macquart. 738, *Apotinocerus brevistylatus* Wulp. 739, *Dasophrys paron* Walker.



FIGURES 740–751.—740, *Nerax interruptus* Macquart. 741, *Lecania* sp., male. 742, *Eicherax nigripes* Bellardi, male. 743, *Eicherax simplex* Macquart. 744, *Promachina trapezoidalis* Bellardi. 745, *Eccoptopus longitarsis* Macquart. 746, *Eichoichemus* sp. 747, *Opopotes attenuatus* Hull. 748, *Nyssomyia ochracea*, new species. 749, *Cratolestes spectabilis* Philippi, male. 750, *Philonerax mucidus* Walker, male. 751, *Lonchodogonus cribratus*, new species.



Figures 752–763.—752, *Emphysomera conopsoides* Wiedemann, male. 753, *Neolophonotus* (*Neolophonotus*) *chalcogaster* Wiedemann. 754, *Lycomya germainii* Bigot. 755, *Chilesus geminatus* Bromley. 756, *Echthistus cognatus* Loew. 757, *Hoplopheromerus armipes* Macquart. 758, *Clephydroneura xanthopus* Wiedemann. 759, *Anarmostus iopterus* Wiedemann. 760, *Amphiscolops mendax* Walker. 761, *Polyphonius laevigatus* Loew. 762, *Stilpnogaster aemulus* Meigen. 763, *Pamponerus germanicus* Loew.



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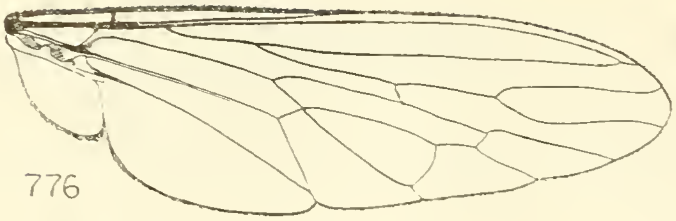
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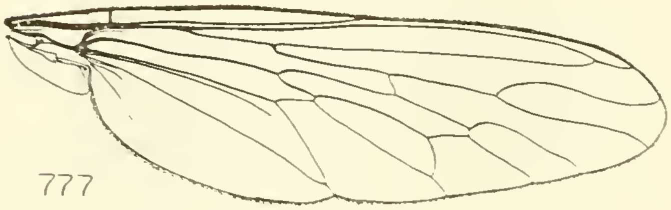
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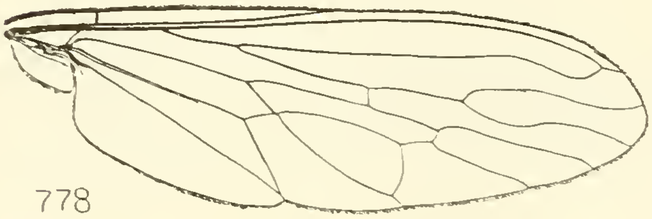
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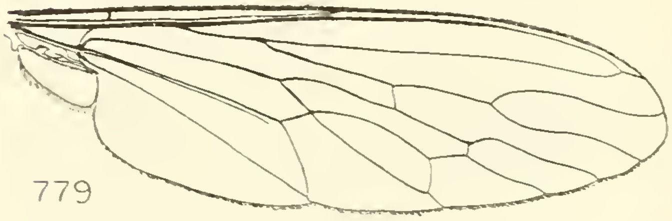
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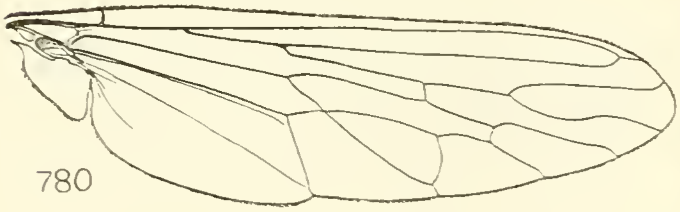
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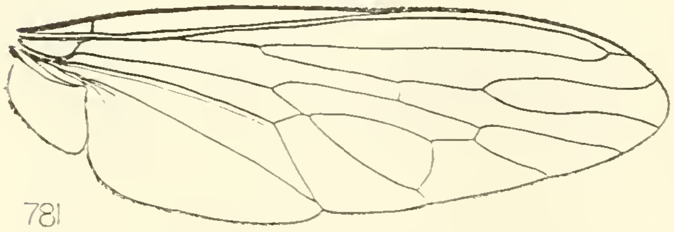
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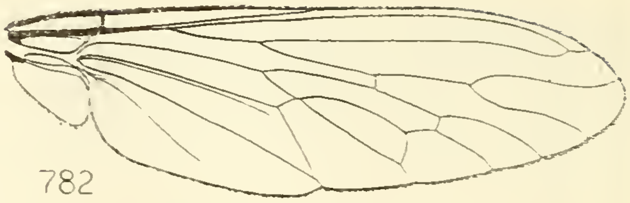
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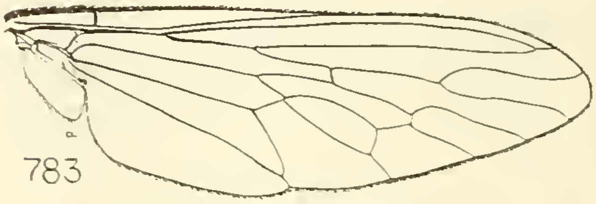
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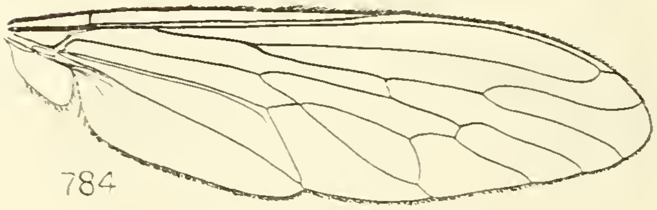
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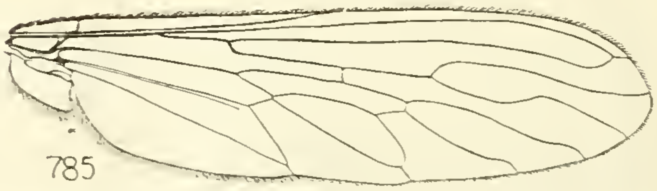
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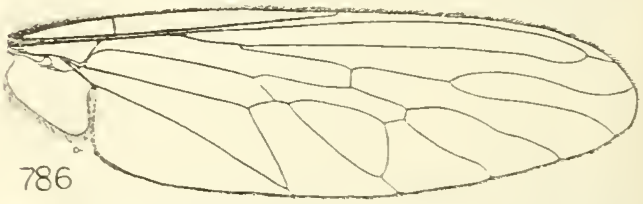
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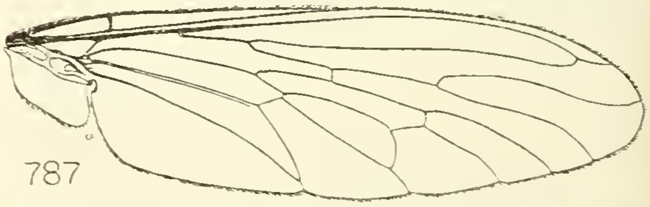
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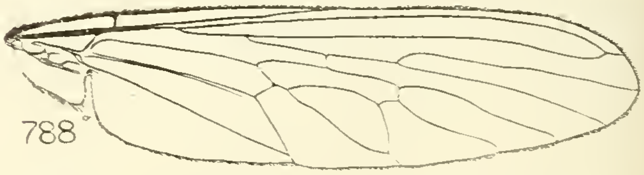
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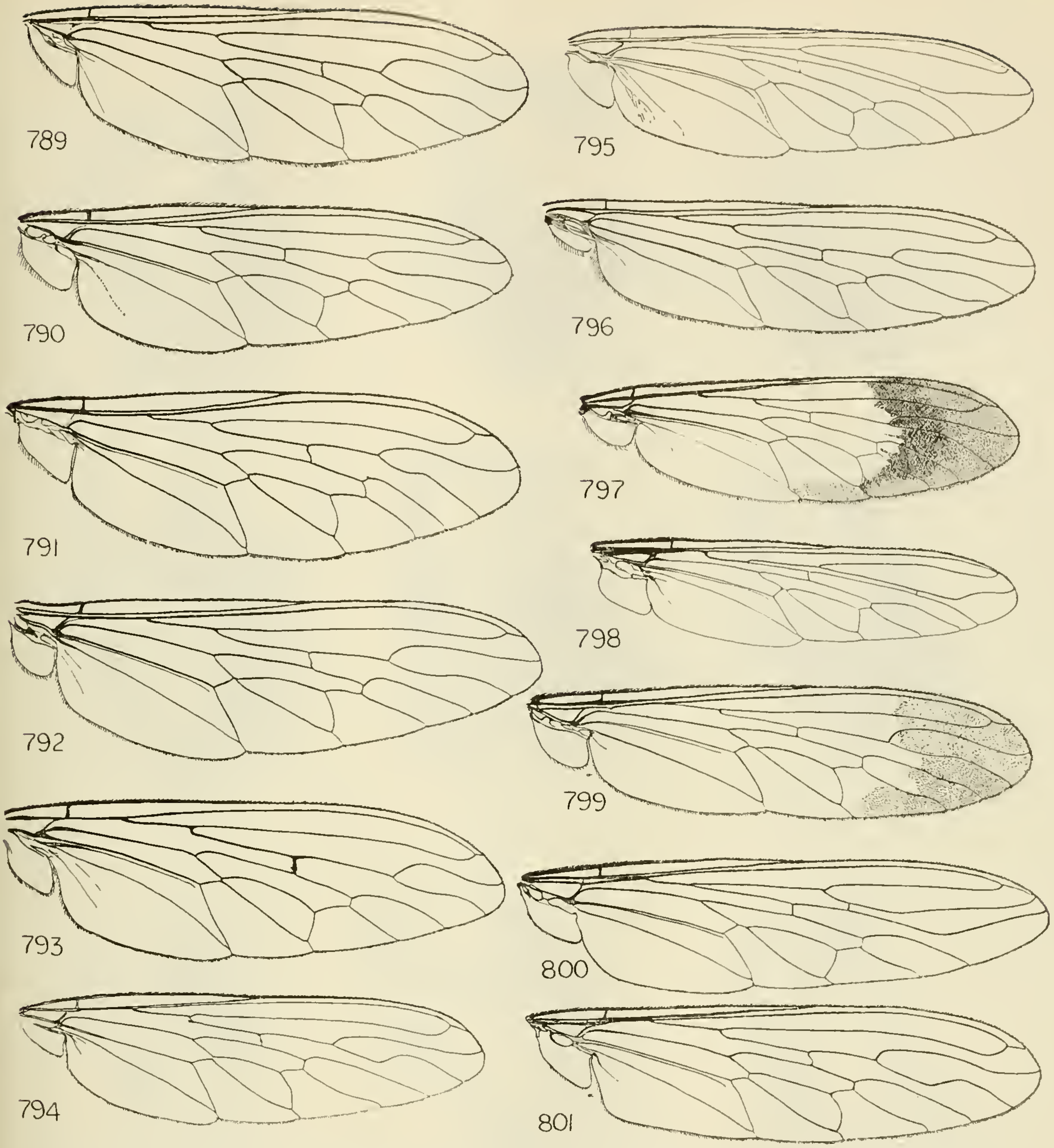
FIGURES 776–788.—776. *Acanthopleura brunnipes* Fabricius, male. 777. *Threnia carbonaria* Wiedemann. 778. *Tolmerus parvus* Ricardo, male. 779. *Rhadiurgus variabilis* Zetterdstedt, male. 780. *Astochia griseus* Wiedemann. 781. *Antiphrisson trifarius* Loew. 782. *Dysmachus trigonus* Meigen. 783. *Lestophonax mallophoroides*, new species. 784. *Epiklisis pilitarsis* Becker. 785. *Strophipogon bromleyi* Hull. 786. *Catostola carrerai* Hull. 787. *Cnodalomyia obtusa*, new species. 788. *Lycoprosopa atrimaculata* Hobby.



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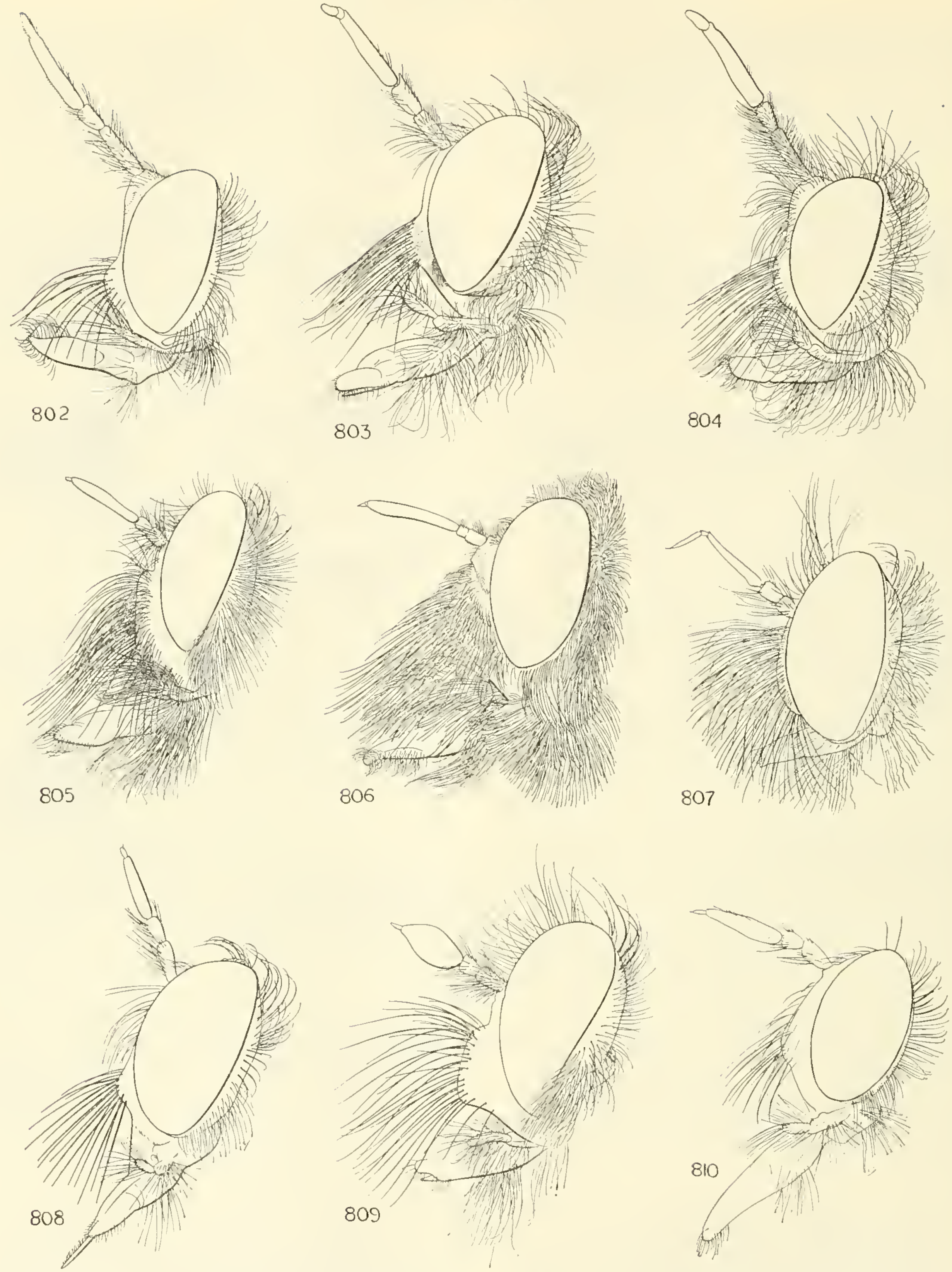

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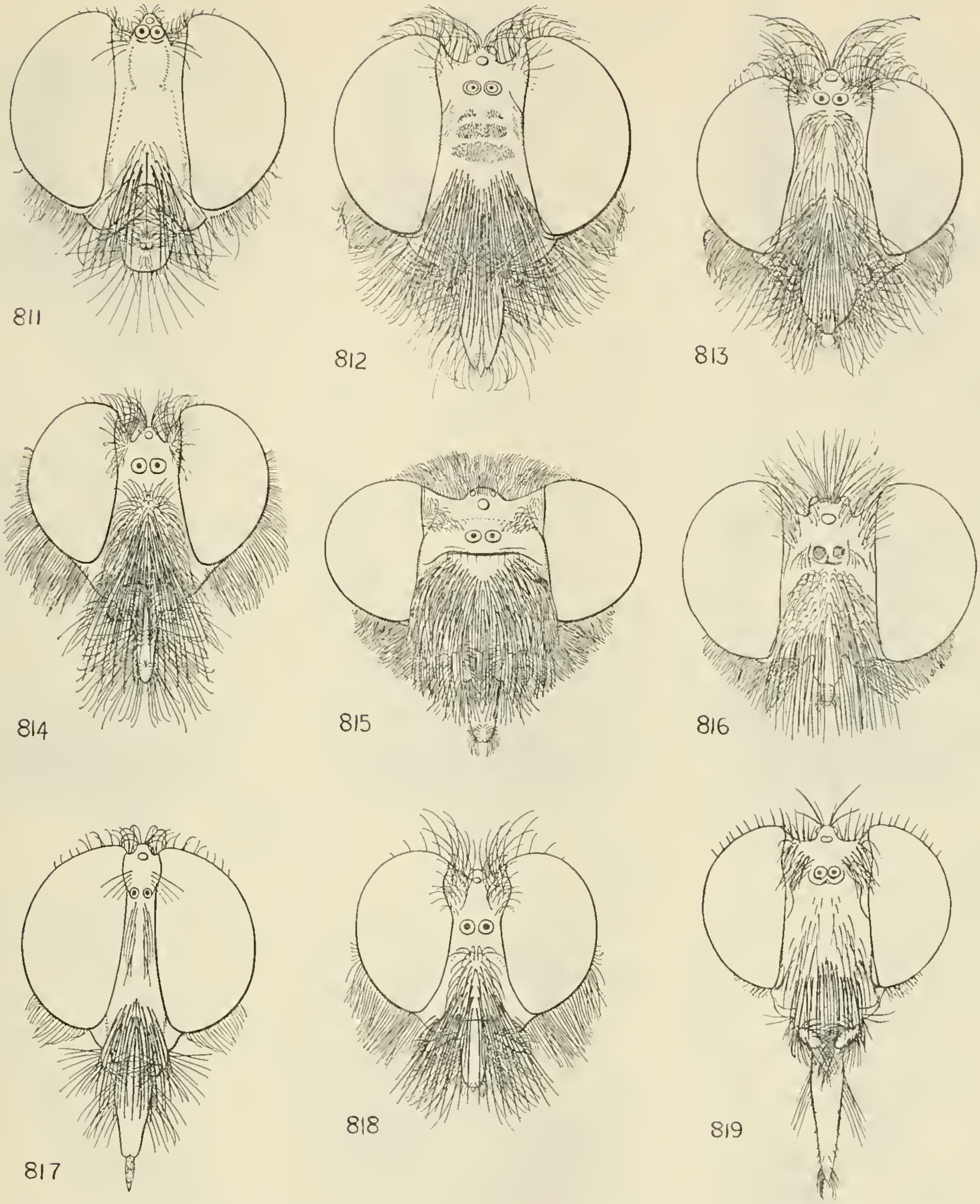
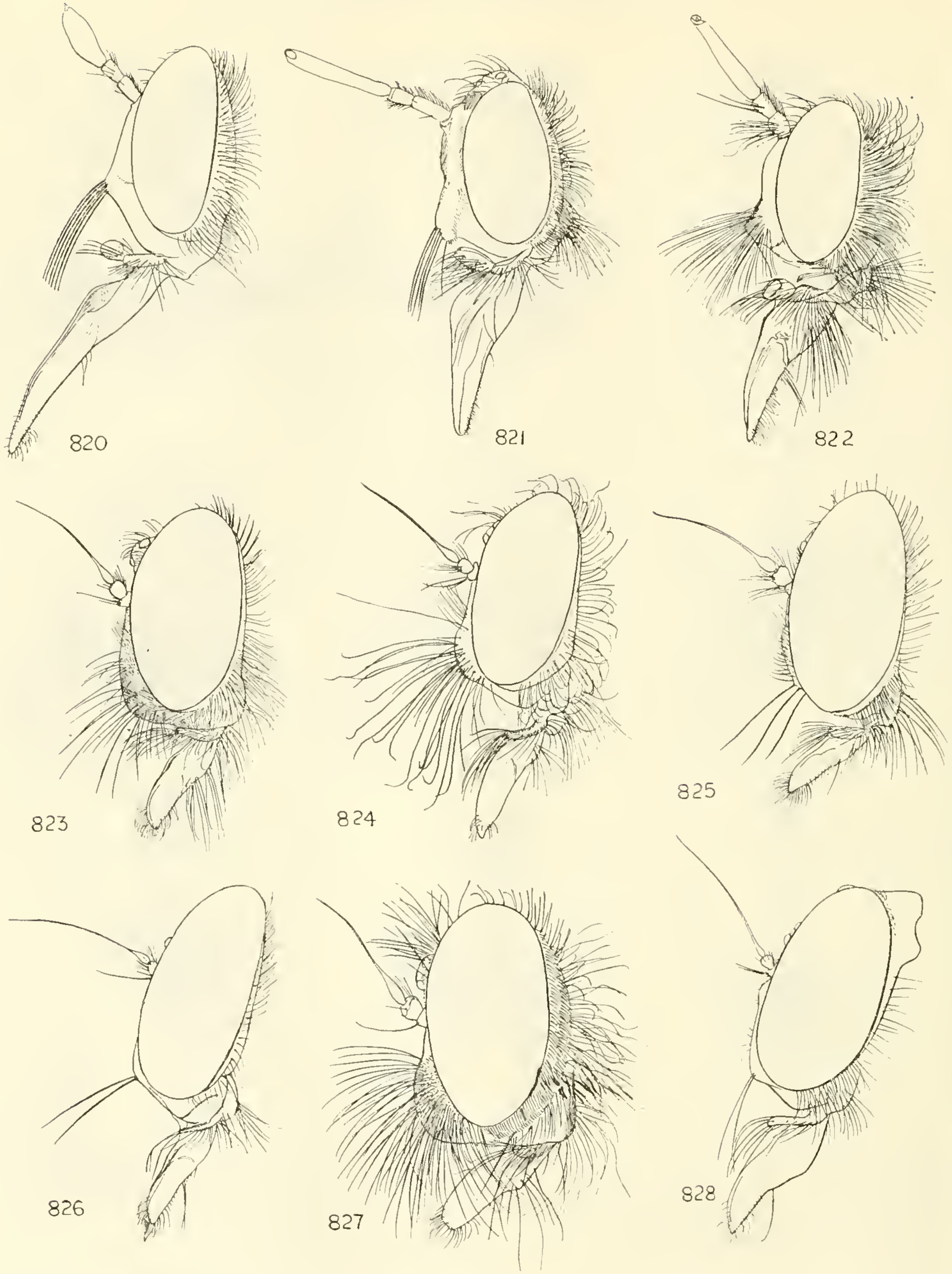
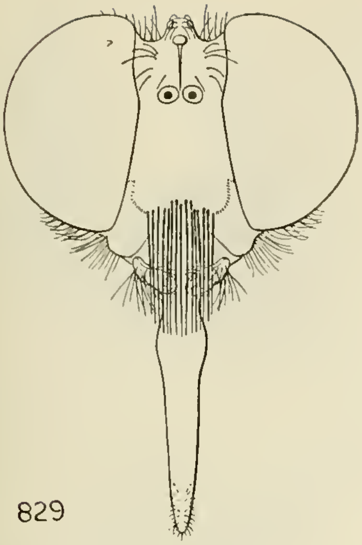


FIGURES 811–819.—811, *Dioctria oelandica* Linné. 812, *Ecthodopa pubera* Loew. 813, *Dicolonus simplex* Loew. 814, *Obelophorus landbecki* Philippi. 815, *Phellus glaucus* Walker. 816, *Leptarthrus brevirostris* Meigen. 817, *Aplestobroma avida* Hull. 818, *Pritchardia hirtipes* Macquart. 819, *Molobratia teutonus* Linné.



FIGURES 820–828.—820, *Opseostlengis* sp. 821, *Codula vespiformis* Thomson. 822, *Chrysopogon albopunctatus* Macquart. 823, *Damalis femoralis* Ricardo. 824, *Lophurodamalis hirtiventris* Macquart. 825, *Damalis hyalipennis* Macquart. 826, *Damalina* sp. 827, *Lasiodamalis heterocerus* Wiedemann. 828, *Aireina paradoxa* Frey, type.



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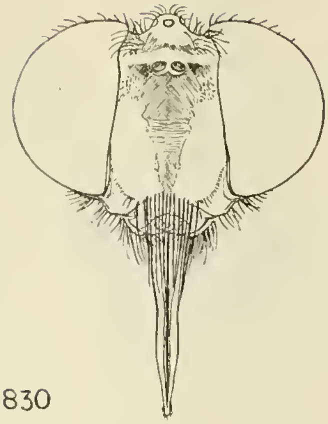

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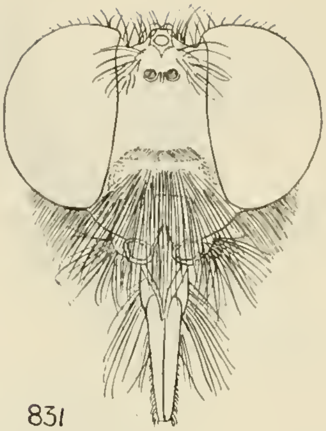

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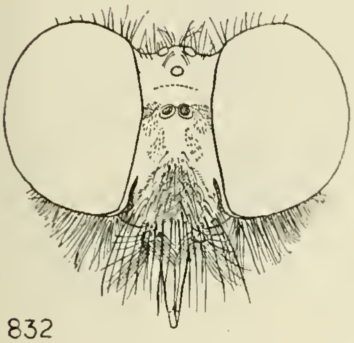

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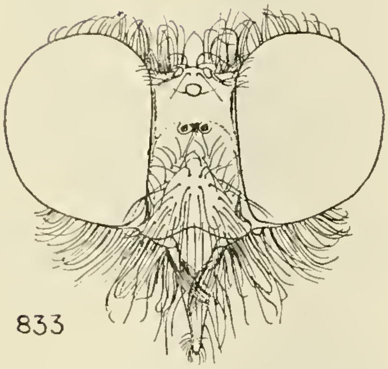

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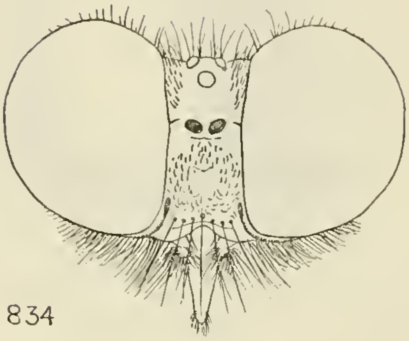

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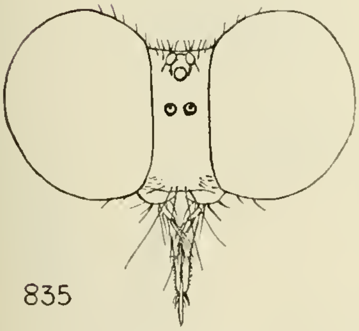

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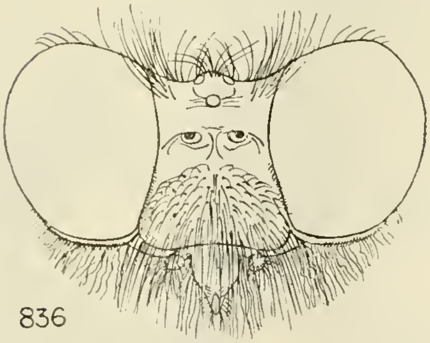

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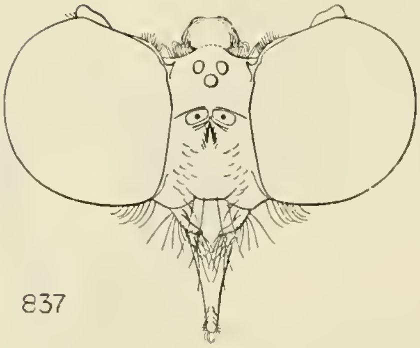

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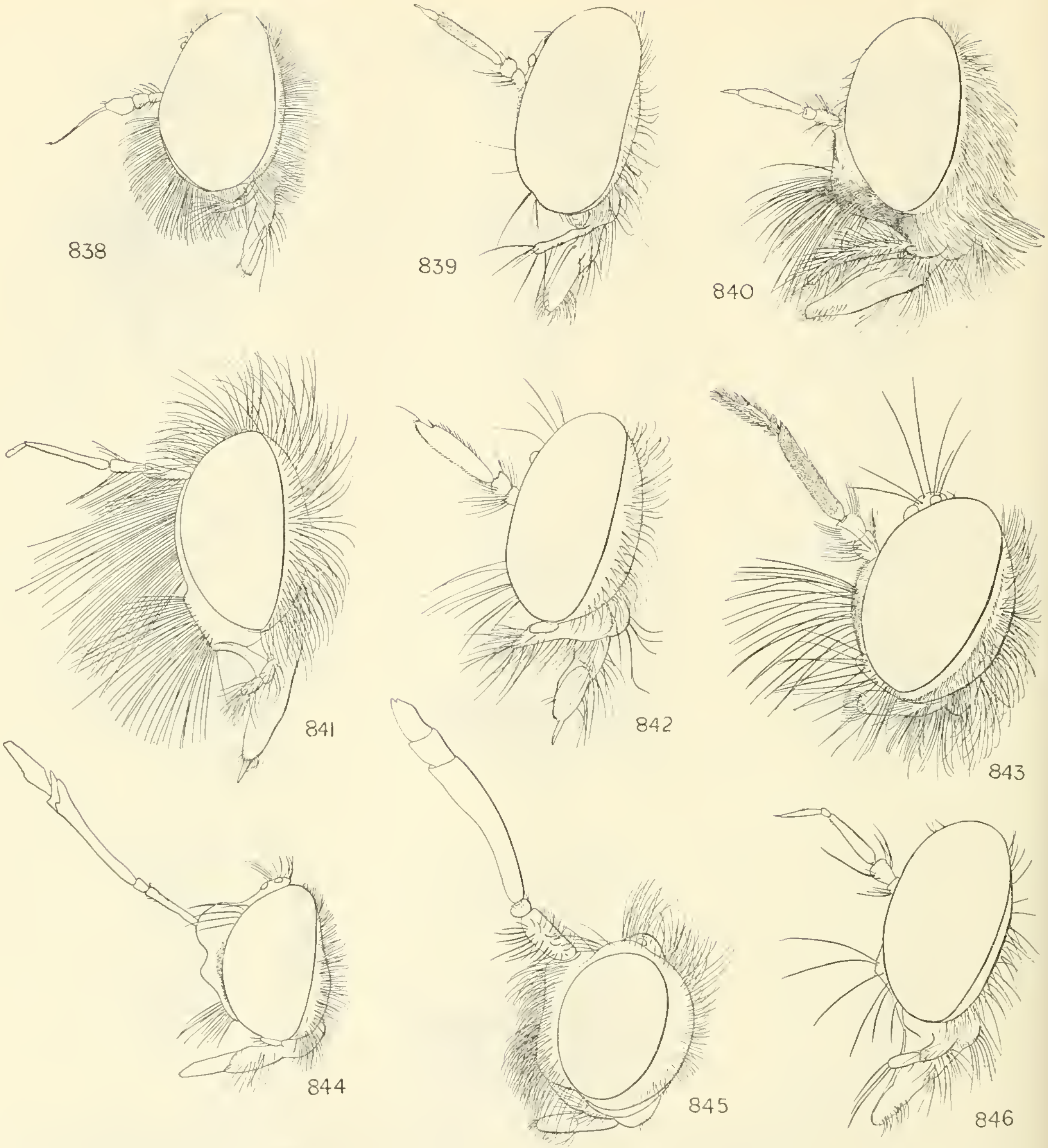
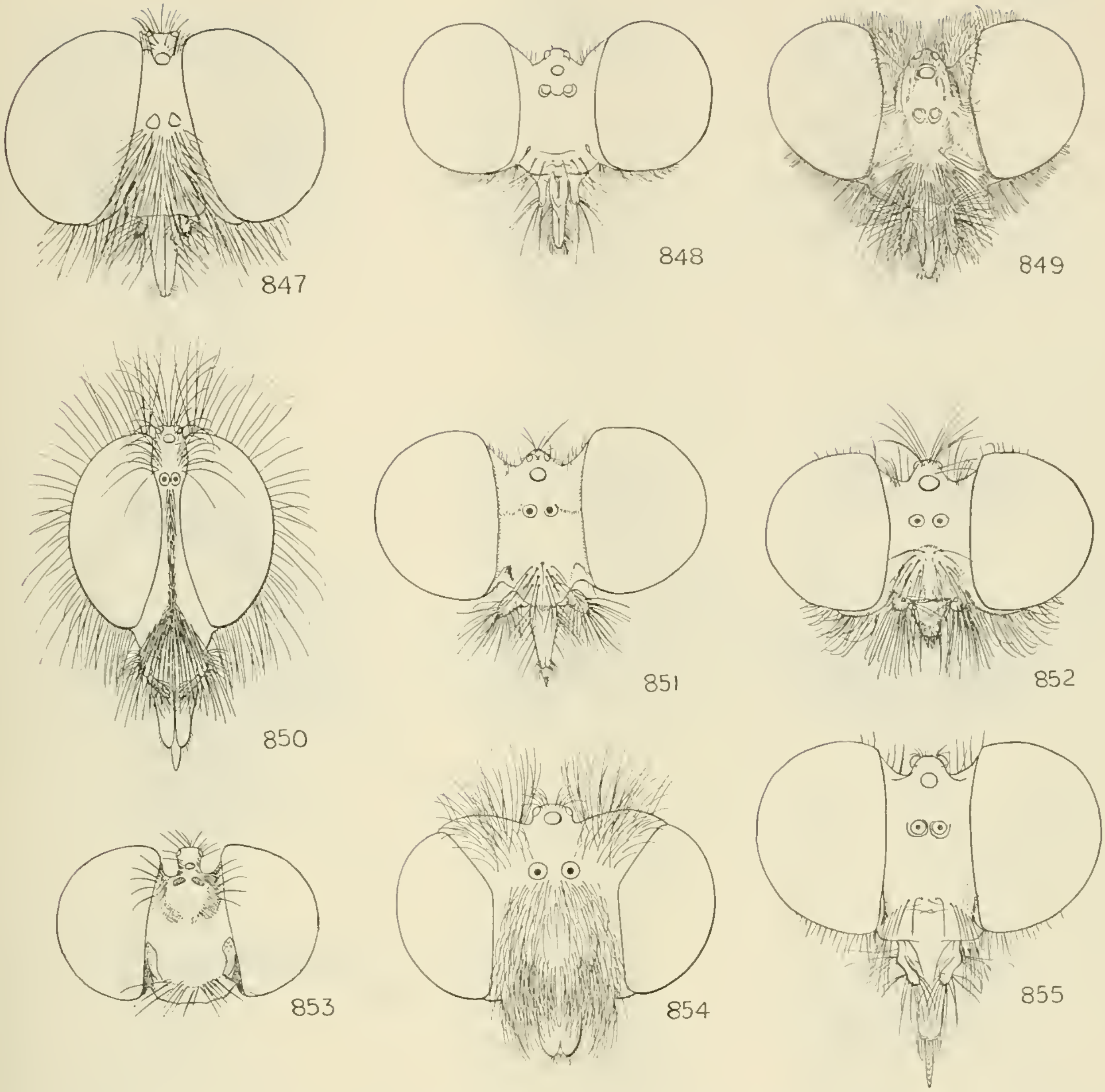
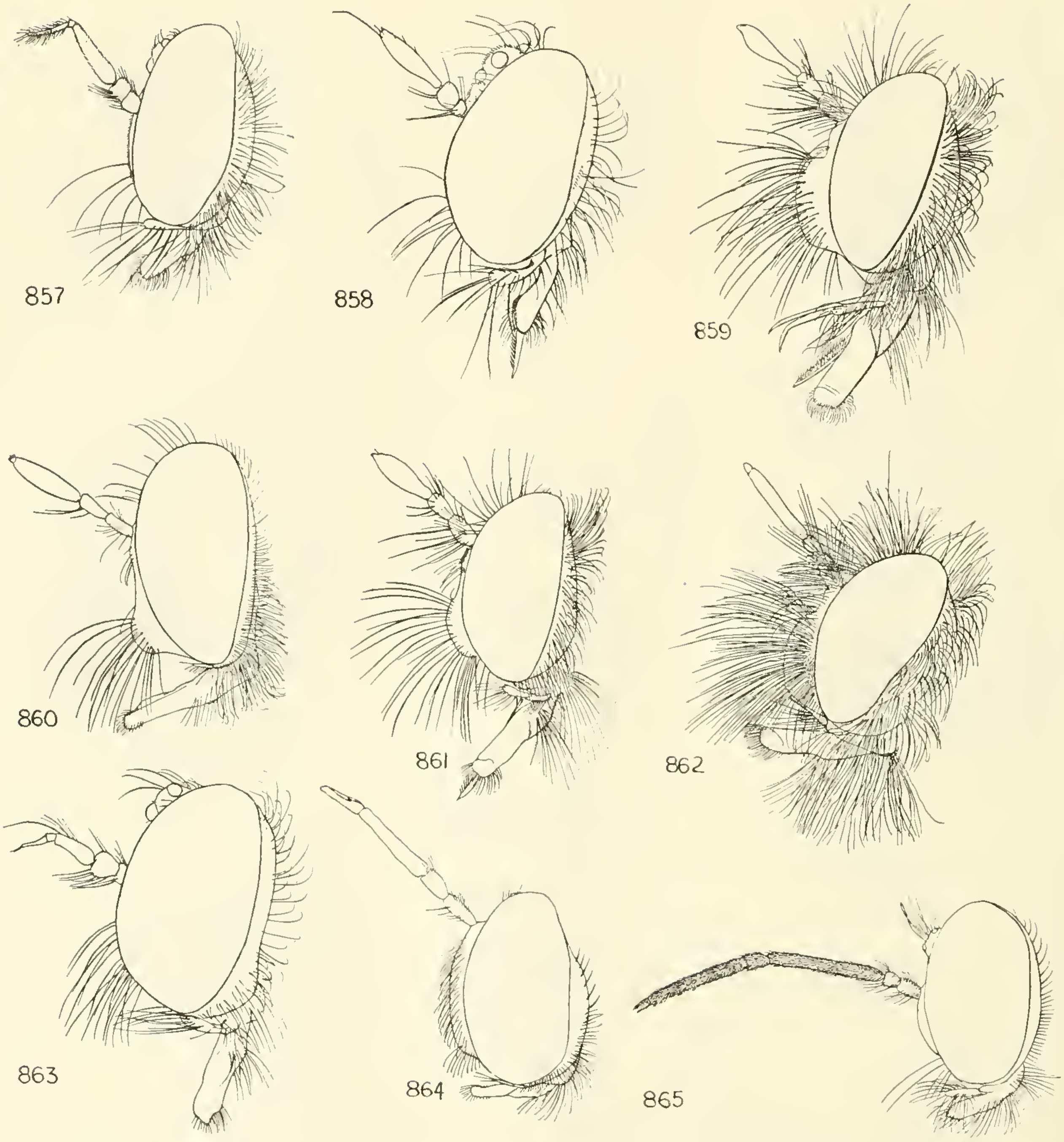
FIGURES 829–837.—829, *Opseostlengis* sp. 830, *Codula vespiformis* Thomson. 831, *Chrysopogon albopunctatus* Macquart. 832, *Damalis femoralis* Ricardo. 833, *Lophurodamalis hirtiventris* Macquart. 834, *Damalis hyalipennis* Macquart. 835, *Damalis* sp. 836, *Lasiodamalis heterocerus* Wiedemann. 837, *Aireina paradoxa* Frey, type.



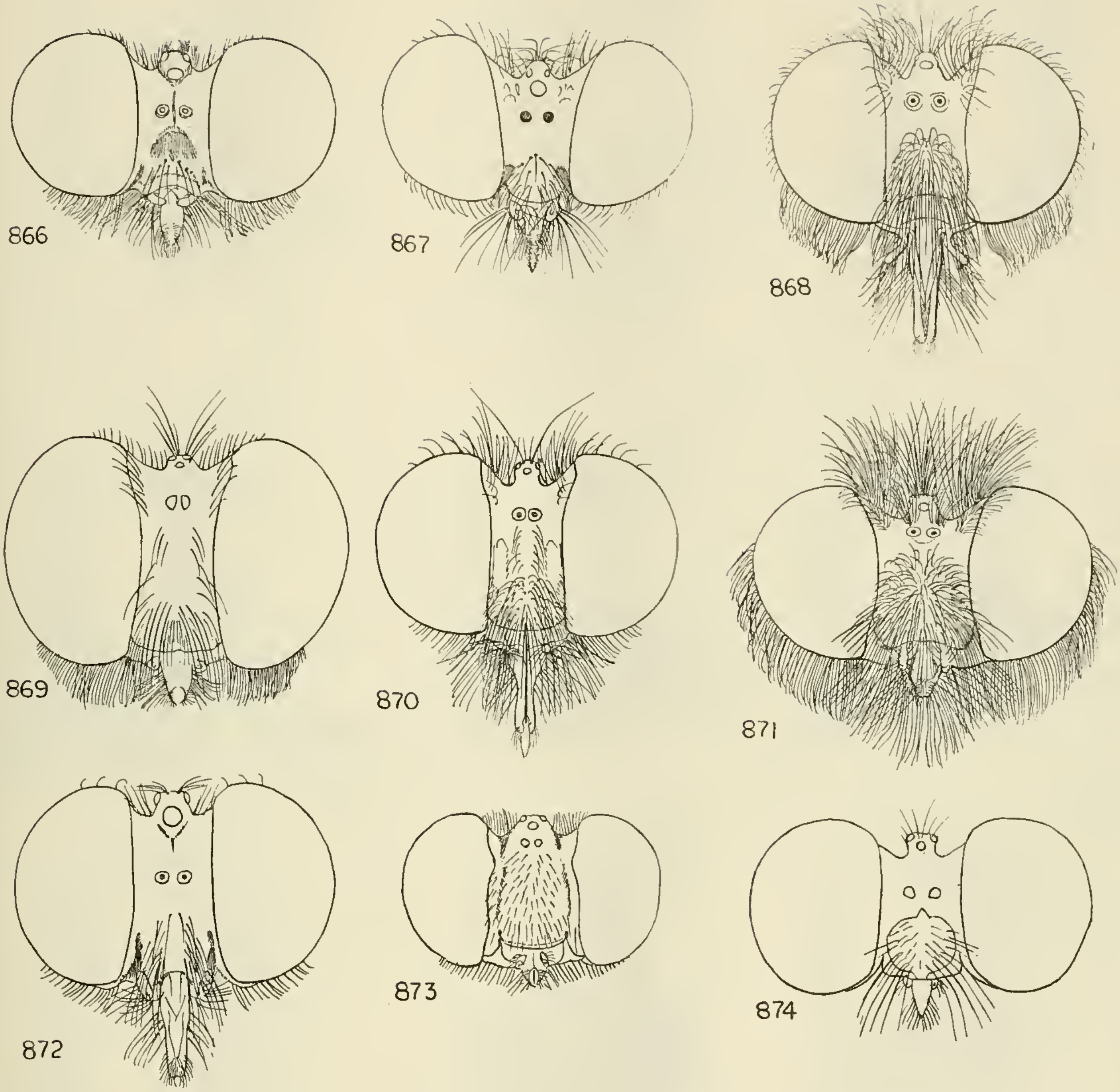
Figures 838–846.—838, *Orrhodops americanus* Curran. 839, *Holcocephala abdominalis* Say. 840. *Psilozona albitarsis* Ricardo. 841, *Broticosia* sp. 842, *Damalina hirtipes* de Meijere. 843, *Rhipidocephala caffra* Macquart. 844, *Myelaphus dispar* Loew. 845, *Hermannella engeli*, new species. 846, *Oxynoton francoisi* Janssens.



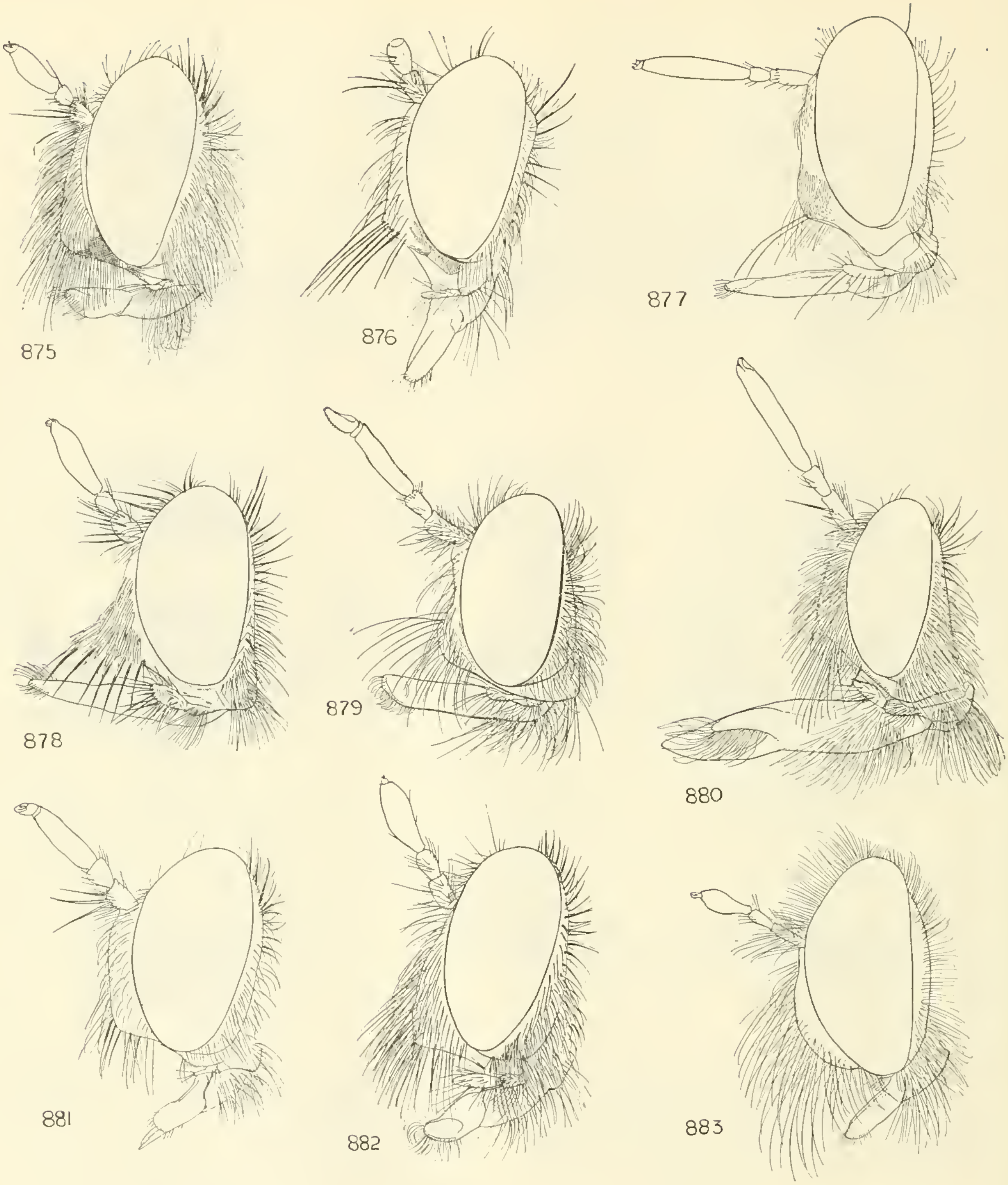
Figures 847–856.—847, *Orrhodops americanus* Curran. 848, *Holcocephala abdominalis* Say. 849, *Psilozona albitarsis* Ricardo. 850, *Broticosia* sp. 851, *Damalina hirtipes* de Meijere. 852, *Rhipidocephala caffra* Macquart. 853, *Myelaphus dispar* Loew. 854, *Hermannella engeli*, new species. 855, *Oxynoton francoisi* Janssens. [856, no illustration.]



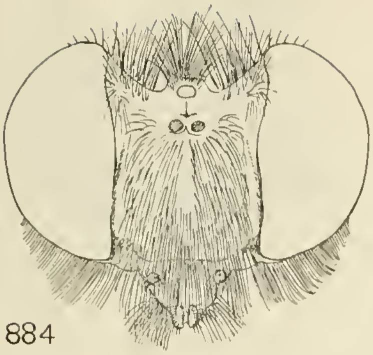
Figures 857–865.—857, *Paroxynoton tigrinum* Janssens. 858, *Trigonomima pennipes* Hermann. 859, *Apoxyria apicata* Schiner. 860, *Bohartia bromleyi* Hull. 861, *Helolaphyctis* sp. 862, *Hexameritia tricolor* Schiner. 863, *Haplopogon erinus* Pritchard. 864, *Torebroma gymnops* Hull. 865, *Margaritola mirabilis* Hull.



Figures 866–874.—866, *Paroxynoton tigrinum* Janssens. 867, *Trigonomima pennipes* Hermann. 868, *Apoxyria apicata* Schiner. 869, *Bohartia bromleyi* Hull. 870, *Helolaphyctis* sp. 871, *Hexameritia tricolor* Schiner. 872, *Haplopogon erinus* Pritchard. 873, *Torebroma gymnops* Hull. 874, *Margaritola mirabilis* Hull.



Figures 875–883.—875, *Glyphotriclis ornatus* Schiner. 876, *Macahyba nordestina* Carrera. 877, *Perasis sareptana* Hermann. 878, *Saucropogon transvaalensis* Ricardo. 879, *Acrochordomerus aeneus* Hermann. 880, *Hoplistomerus serripes* Fabricius. 881, *Laphystia sabulicola* Loew. 882, *Trichardis testacea* Hermann. 883, *Zabrops tagax* Hull.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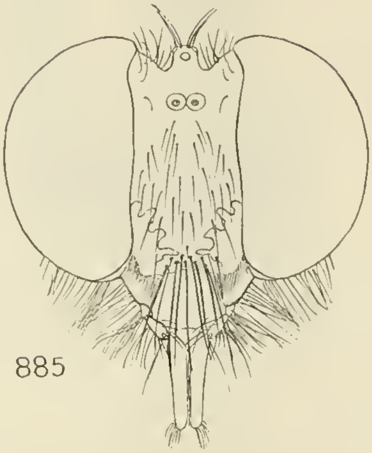
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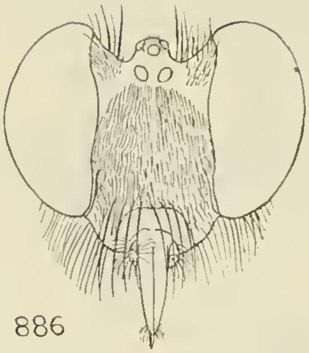
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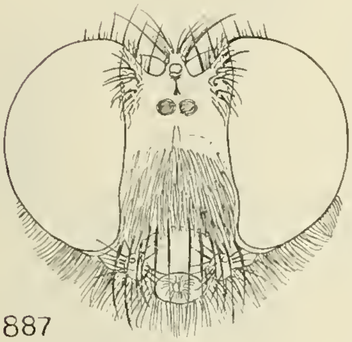
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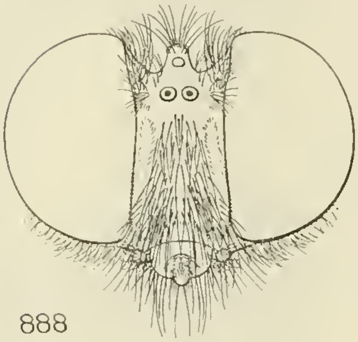
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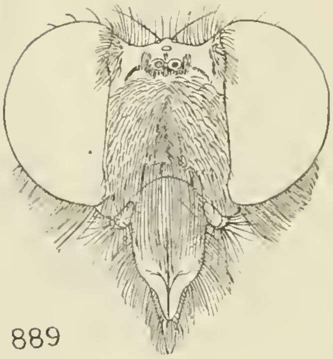
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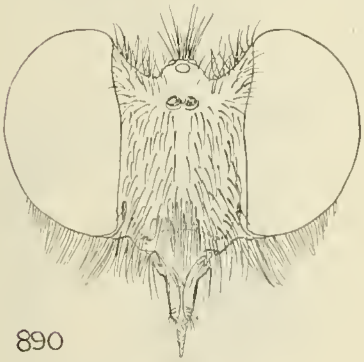
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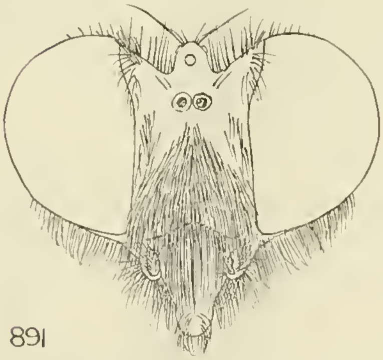
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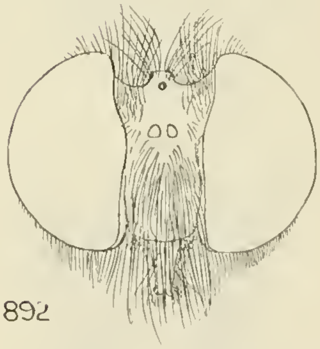
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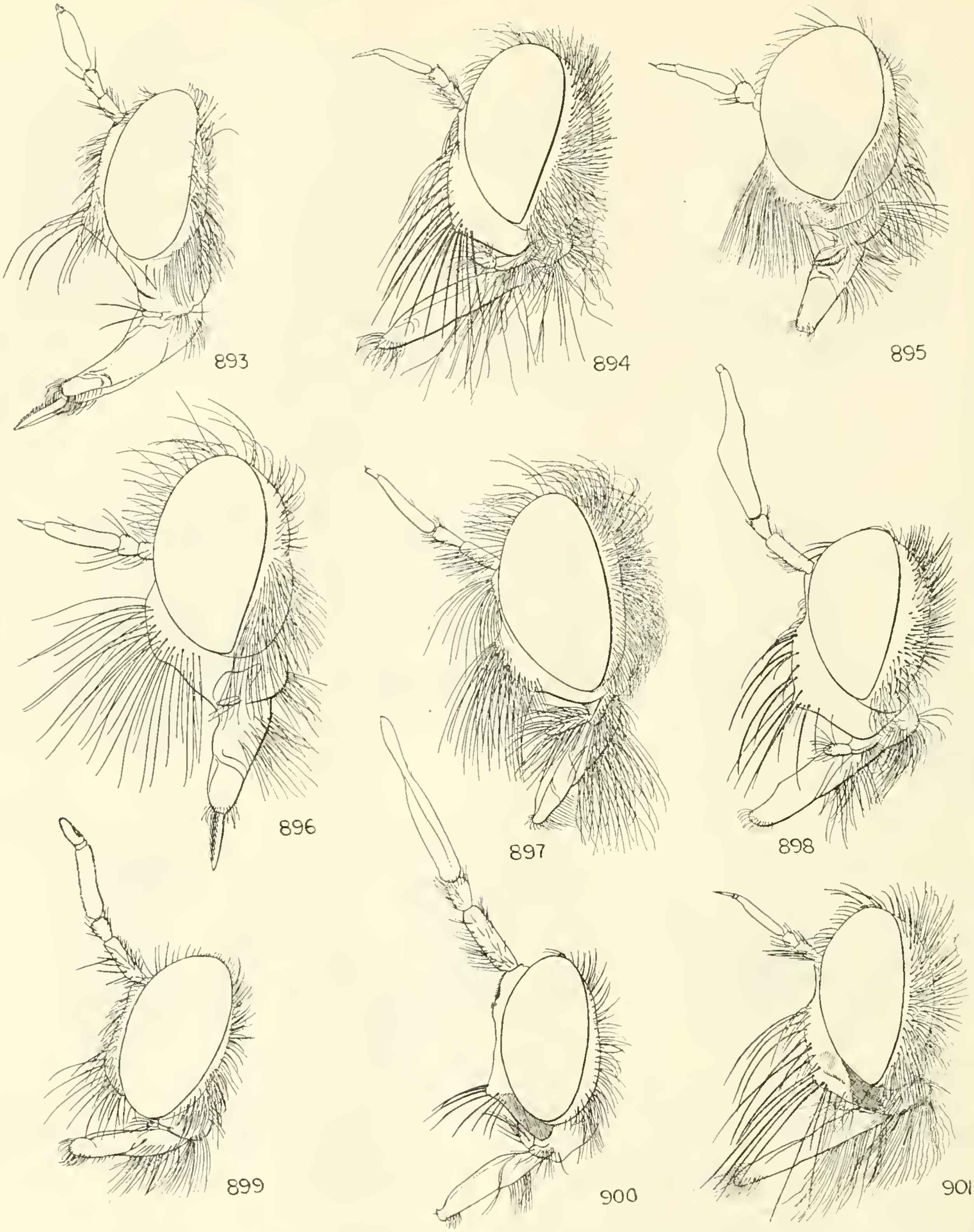
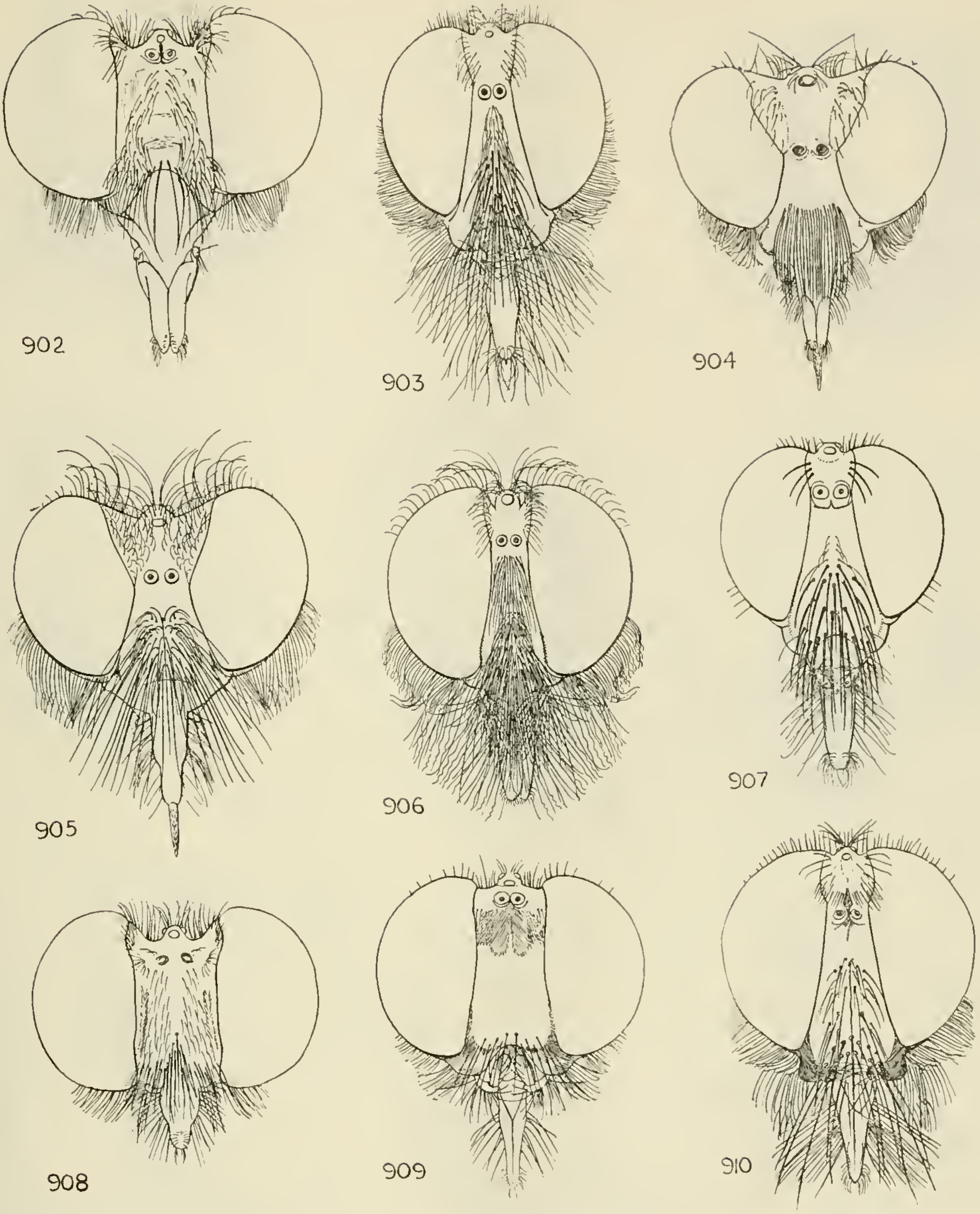
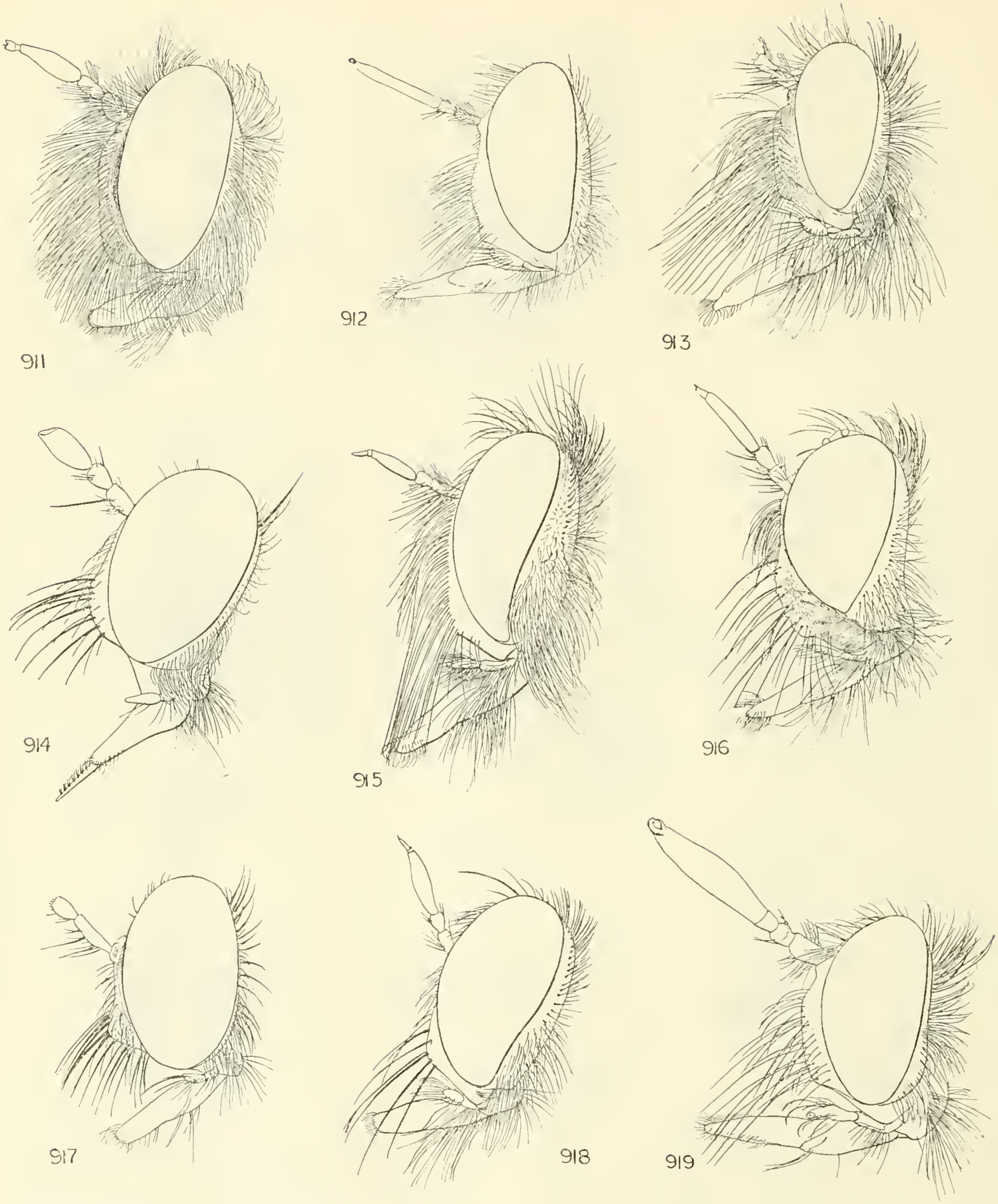
Figures 884–892.—884, *Glyphotriclis ornatus* Schiner. 885, *Macahyba nordestina* Carrera. 886, *Perasis sareptana* Hermann. 887, *Saucropogon transvaalensis* Ricardo. 888, *Acrochordomerus aeneus* Hermann. 889, *Hoplistomerus* sp. 890, *Laphystia sabulicola* Loew. 891, *Trichardis testacea* Hermann. 892, *Zabrops tagax* Williston.



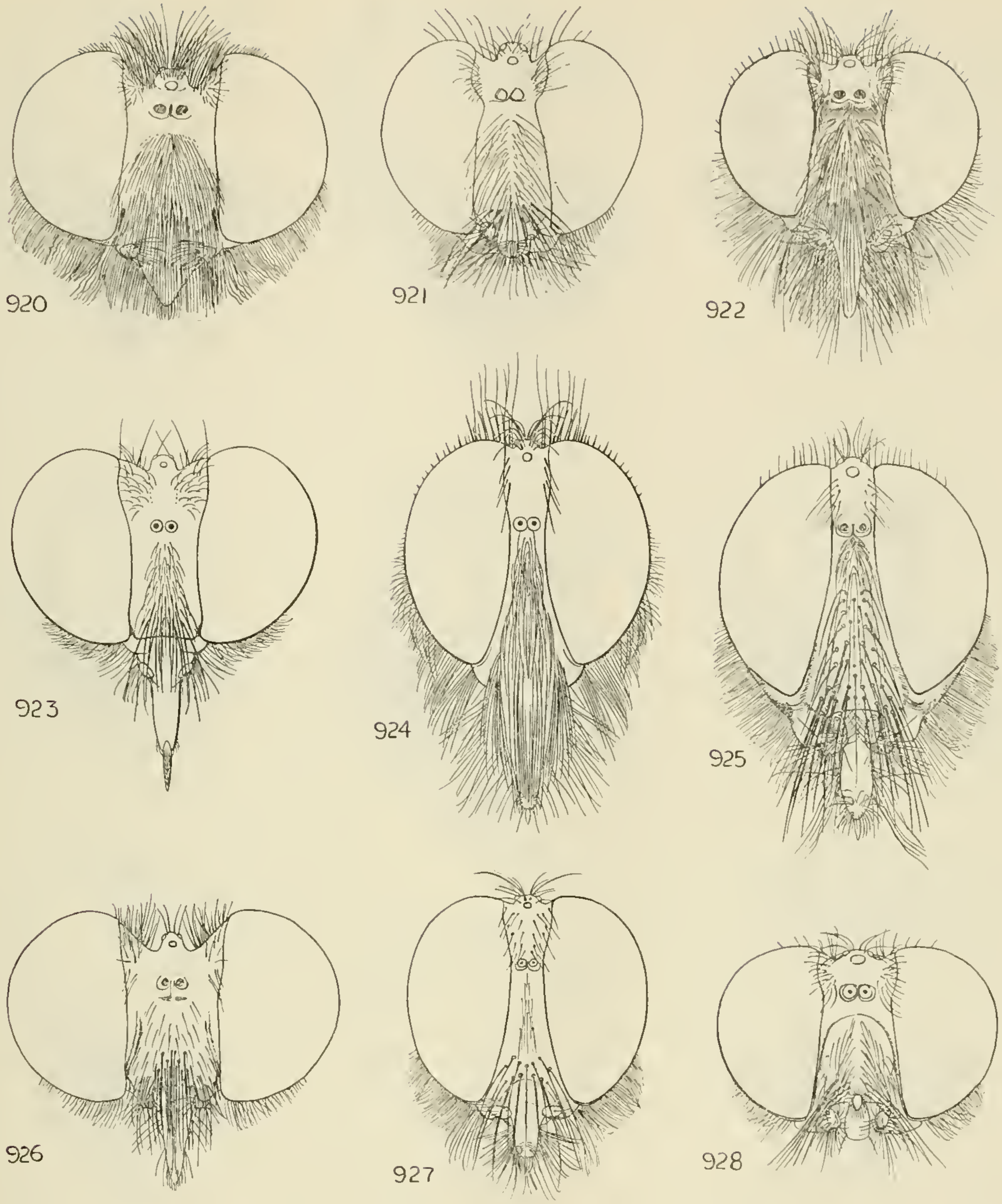
Figures 893–901.—893, *Triclioscelis perfecta* Curran. 894, *Stenopogon elongatus* Meigen. 895, *Stichopogon* (*Cryptopogon*) *vernaculus* White. 896, *Lasiopogon cinctus* Fabricius. 897, *Neoscleropogon elongatus* Macquart. 898, *Ospriocerus diversus* Williston. 899, *Scytomedes haemorrhoidalis* Fabricius. 900, *Macrocolus* sp. 901, *Stenopogon aphrices* Walker.



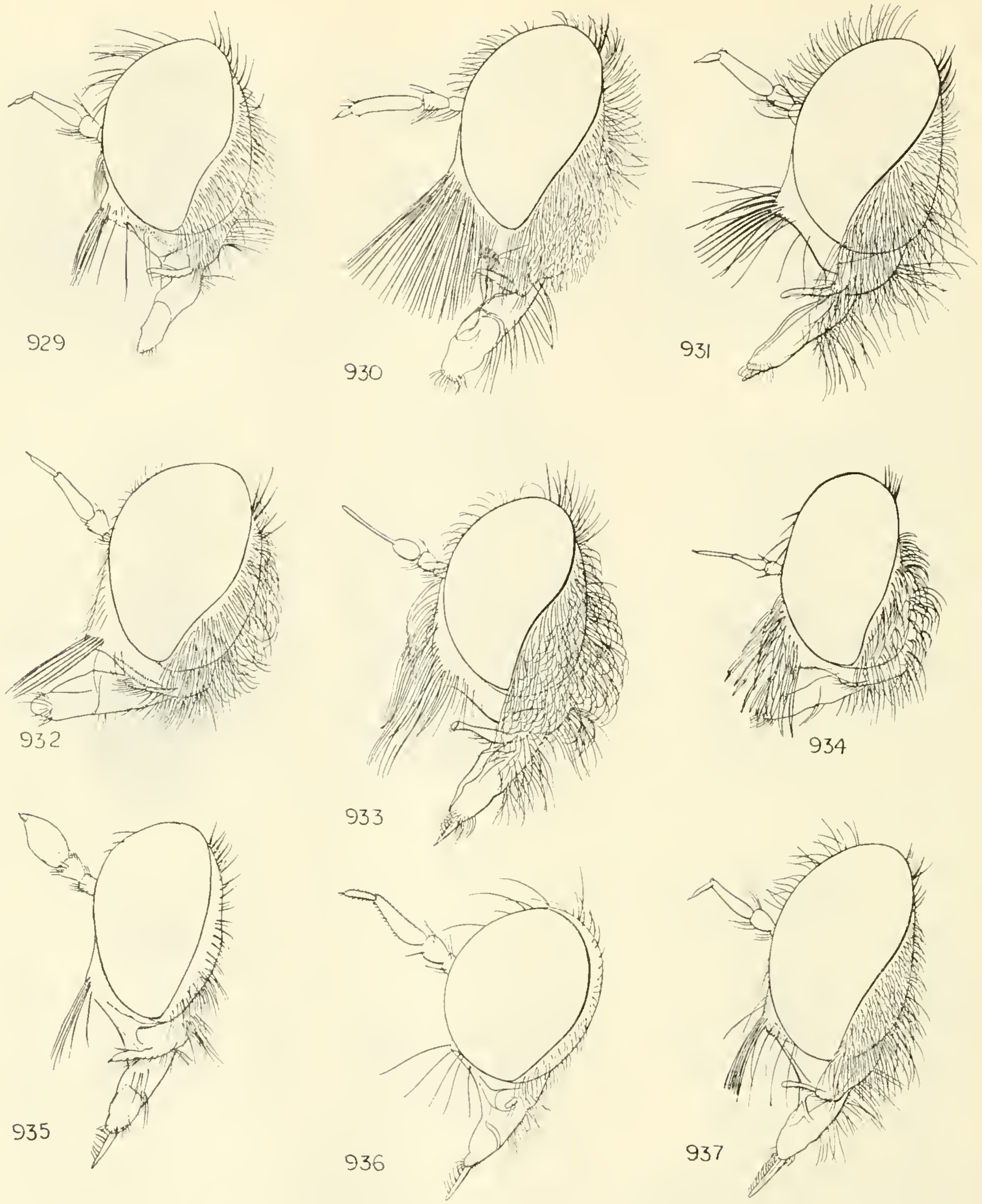
Figures 902–910.—902, *Triclioscelis perfecta* Curran. 903, *Stenopogon elongatus* Meigen. 904, *Stichopogon* (*Cryptopogon*) *vernaculus* White. 905, *Lasiopogon cinctus* Fabricius. 906, *Neoscleropogon elongatus* Macquart. 907, *Ospriocerus diversus* Williston. 908, *Scytomedes haemorrhoidalis* Fabricius. 909, *Macrocolus* sp. 910, *Stenopogon aphrices* Walker.



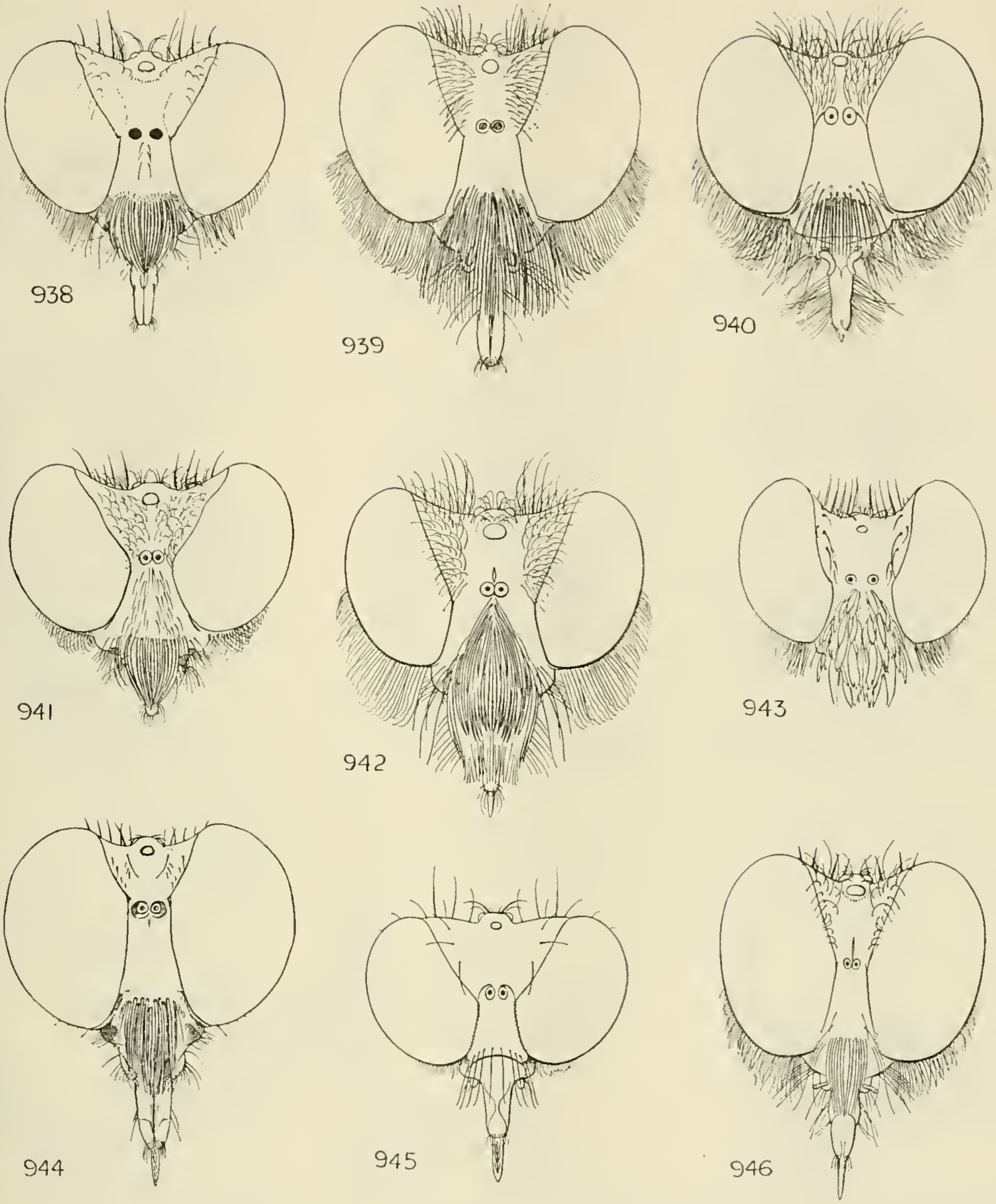
FIGURES 911–919.—911, *Triclis olivaceus* Loew. 912, *Sphageus chalcoproctus* Loew. 913, *Tolmerolestes pluto* Lynch Arribálzaga. 914, *Psilocurus nudiusculus* Loew. 915, *Galactopogon hispidus* Engel. 916, *Gonioscelis femoralis* Ricardo. 917, *Gerrolasius meridionalis* Hermann. 918, *Rhacolaemus variabilis* Hermann. 919, *Prolepsis lucifer* Wiedemann.



Figures 920–928.—920, *Triclis olivaceus* Loew. 921, *Sphageus chalcoproctus* Loew. 922, *Tolmerolestes pluto* Lynch Arribálzaga. 923, *Psilocurus nudiusculus* Loew. 924, *Galactopogon hispidus* Engel. 925, *Gonioscelis femoralis* Ricardo. 926, *Gerrolasius meridionalis* Hermann. 927, *Rhacolaemus variabilis* Hermann. 928, *Prolepsis lucifer* Wiedemann.



Figures 929–937.—929, *Stichopogon elegantulus* Wiedemann. 930, *Clinopogon* sp. 931, *Stichopogon* (*Echinopogon*) *albofasciatus* Meigen. 932, *Neopogon trifasciatus* Say. 933, *Lissoteles vanduzeei* Cole. 934, *Rhadinus megalonix* Loew. 935, *Willistonina bilineata* Williston. 936, *Townsendia minuta* Williston. 937, *Stichopogon* (*Dichropogon*) *schineri* Koch.



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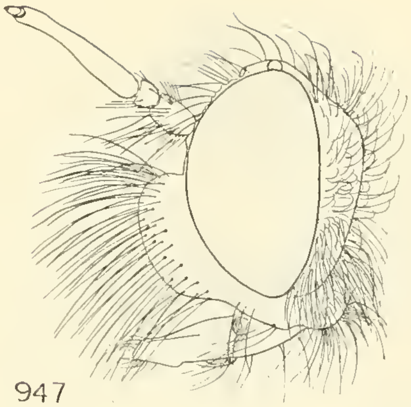
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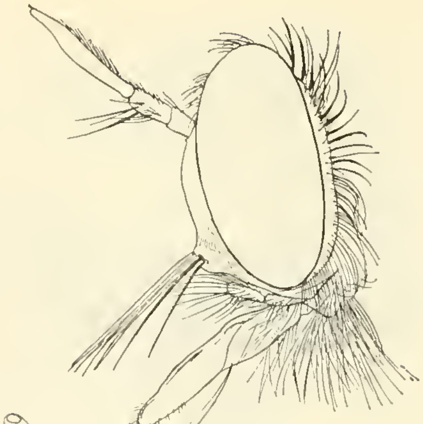
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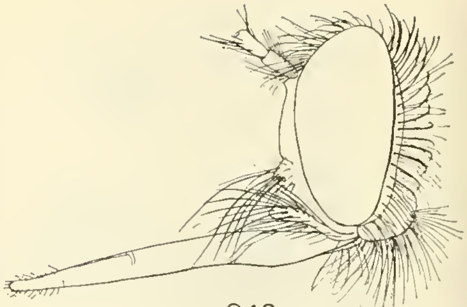
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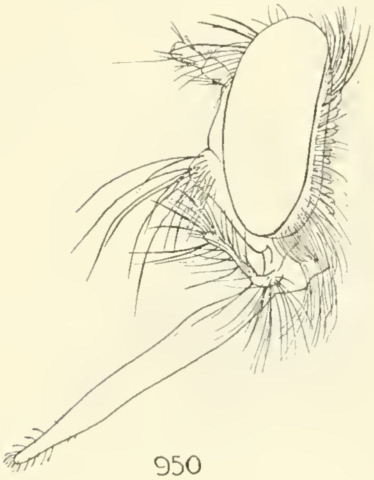
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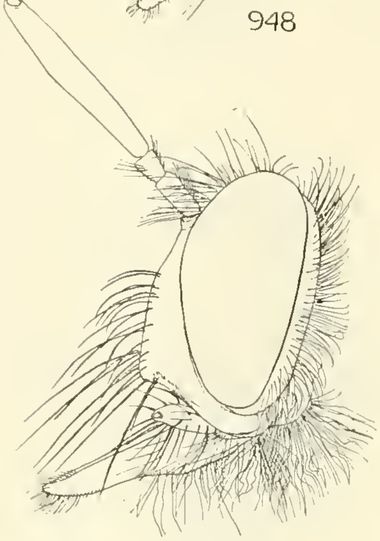
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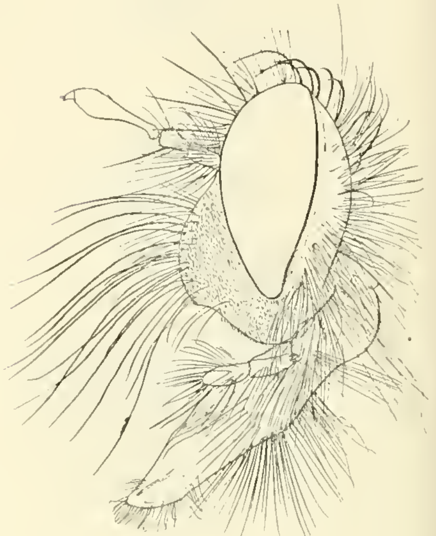
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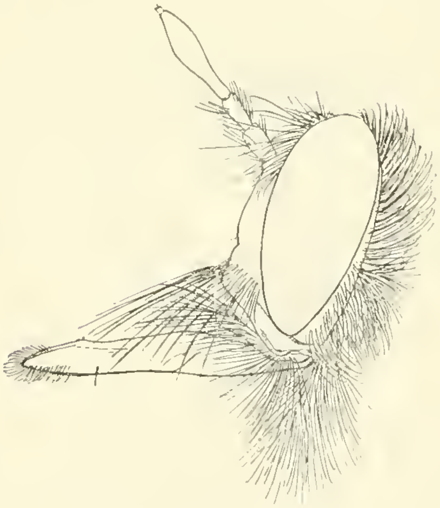
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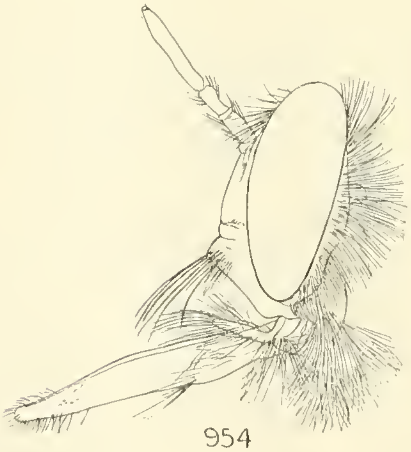
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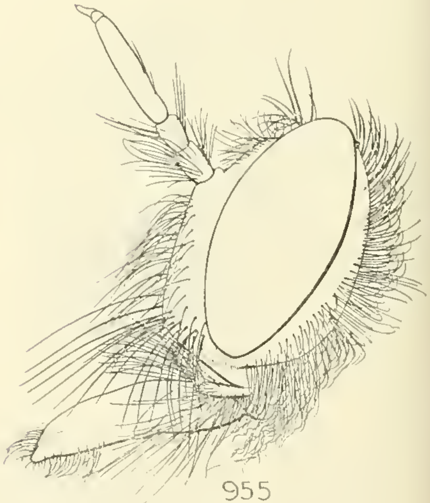
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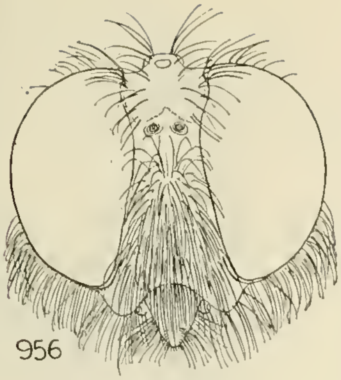
Figures 947–955.—947, *Teratopus cyaneus* Fabricius. 948, *Dicranus jaliscoensis* Williston. 949, *Epiblepharis pedunculata* Bezzi. 950, *Eclipsis maculiventris* Bezzi. 951, *Dizonias phoenicurus* Loew. 952, *Hypenetes* sp. 953, *Microstylum lituratum* Loew. 954, *Mimoscolia oberthurii* Wulp. 955, *Callinicus pollenia* Cole.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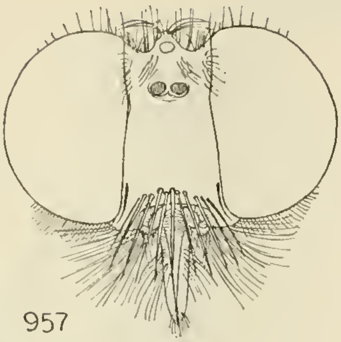
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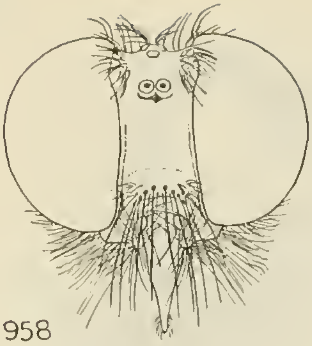
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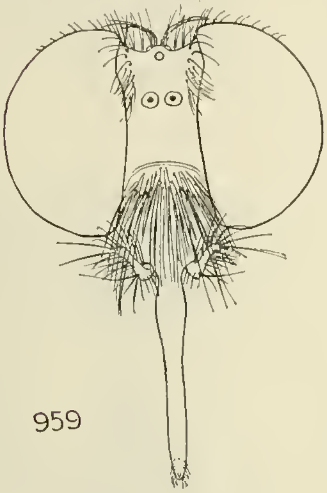
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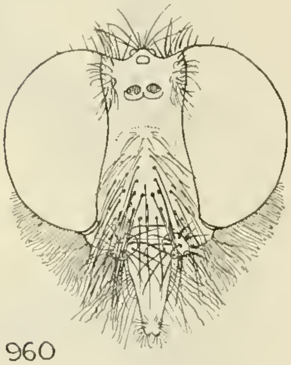
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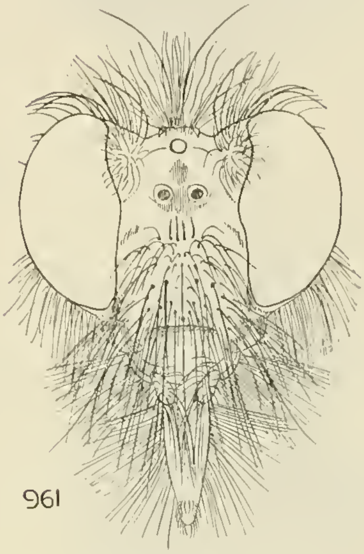
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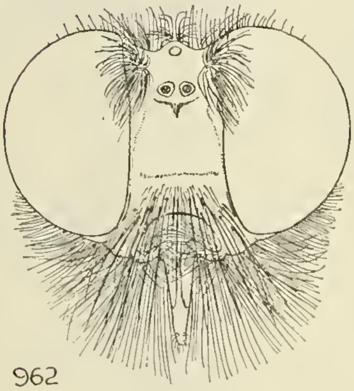
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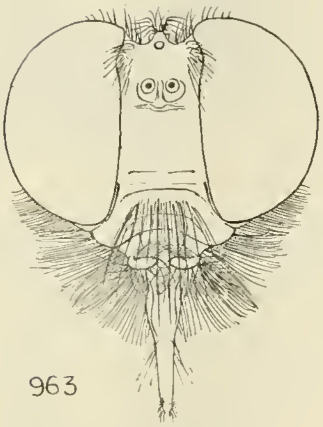
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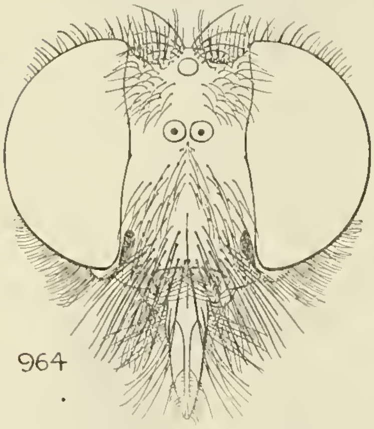
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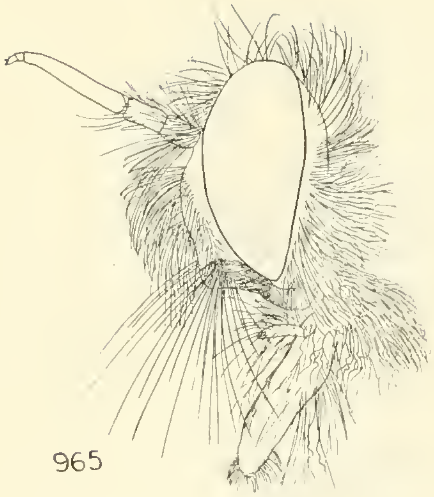
Figures 956–964.—956, *Teratopus cyaneus* Fabricius. 957, *Dicranus jaliscoensis* Williston. 958, *Epiblepharis pedunculata* Bezzi. 959, *Eclipsis maculiventris* Bezzi. 960, *Dizonias phoenicurus* Loew. 961, *Hypenetes* sp. 962, *Microstylum lituratum* Loew. 963, *Mimoscolia oberthurii* Wulp. 964, *Callinicus pollenia* Cole.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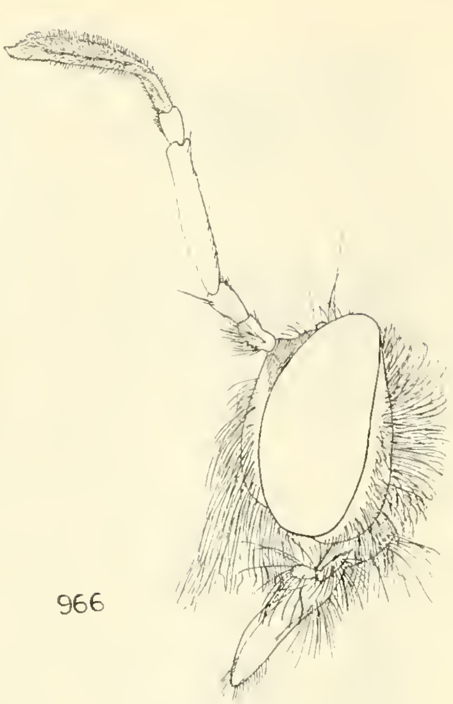
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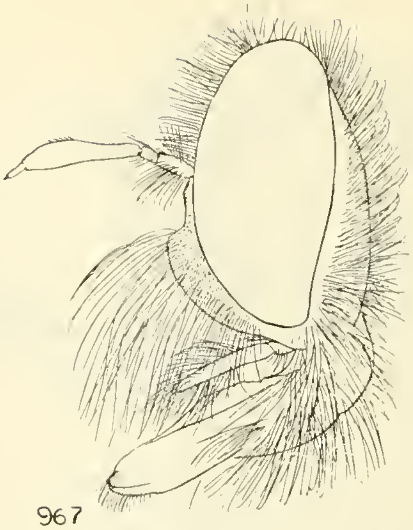
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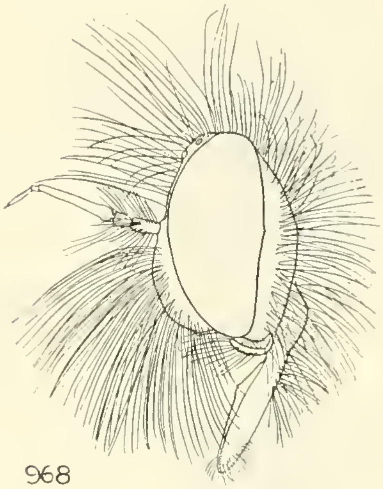
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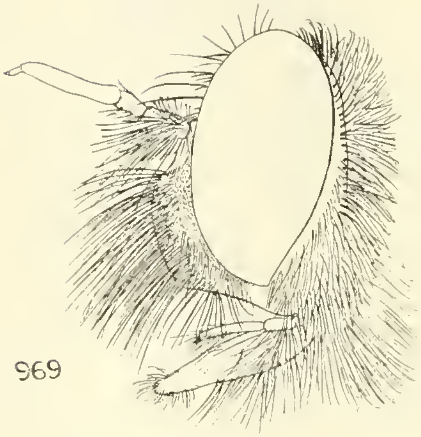
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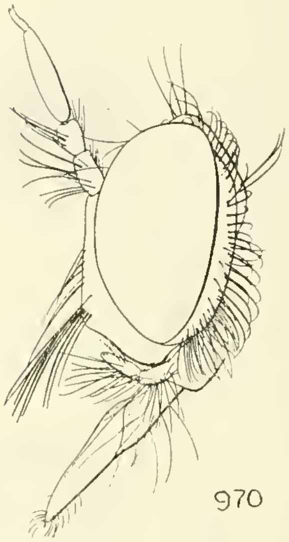
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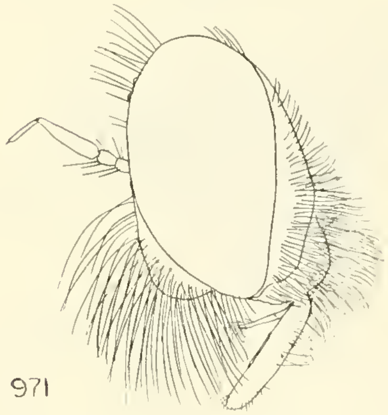
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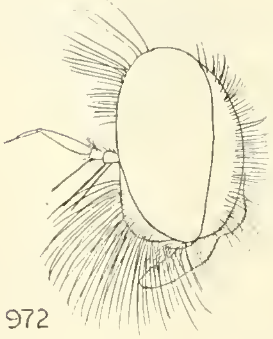
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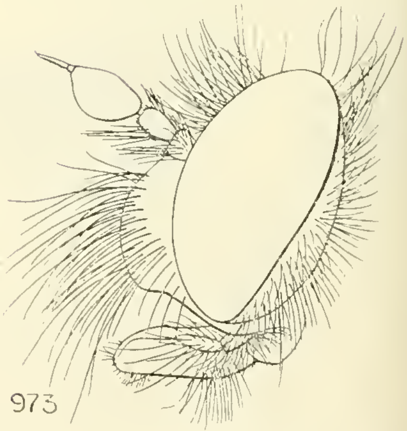
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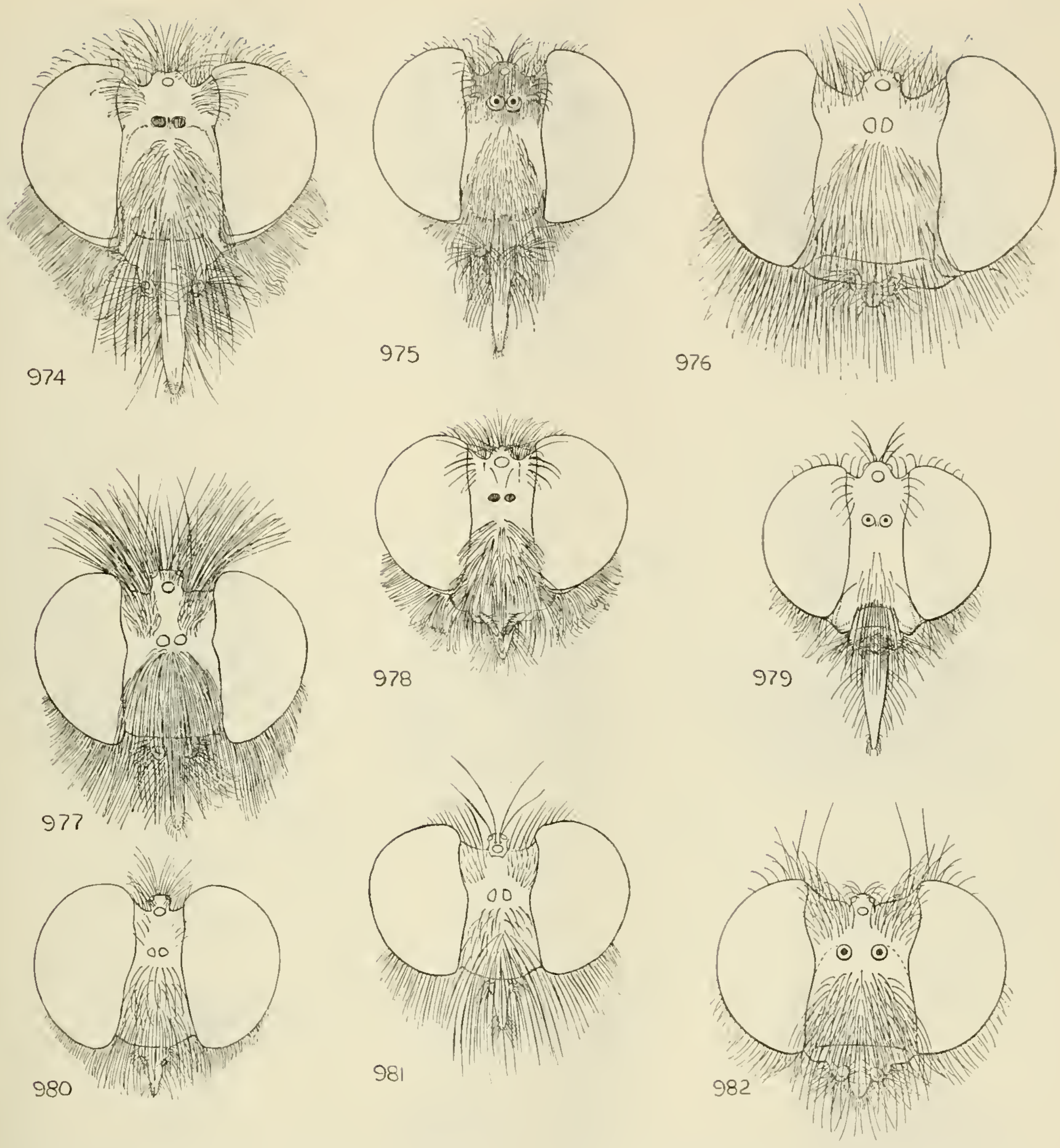
Figures 965–973.—965, *Questopogon clarkii* Dakin and Fordham. 966, *Ceraturgus cruciatus* Say. 967, *Dioctobroma flavoterminatus*, new species. 968, *Eucyrtopogon maculosus* Coquillett. 969, *Oratostylum lepidum* Ricardo. 970, *Harpagobroma fumosa*, new species. 971, *Wilcoxia cinerea* James. 972, *Backomyia limpidipennis* Wilcox and Martin. 973, *Cycloscerus platycerus* Villeneuve.



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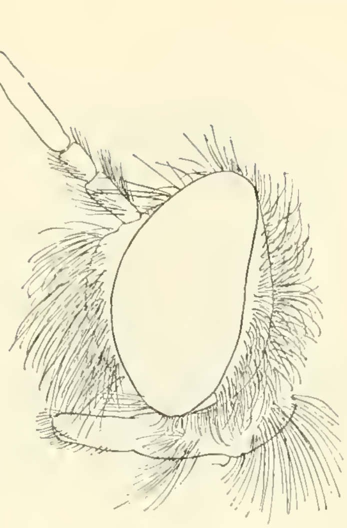
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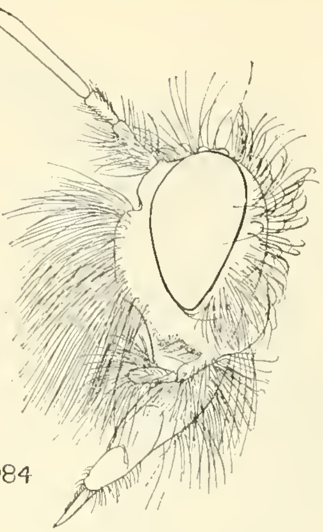
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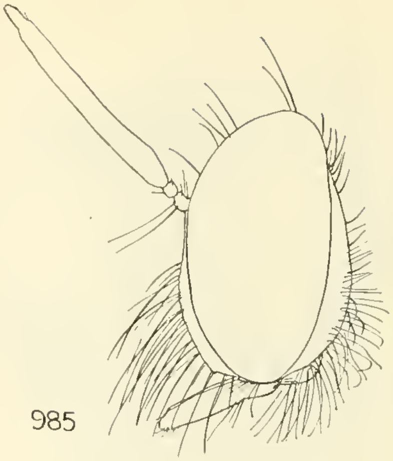
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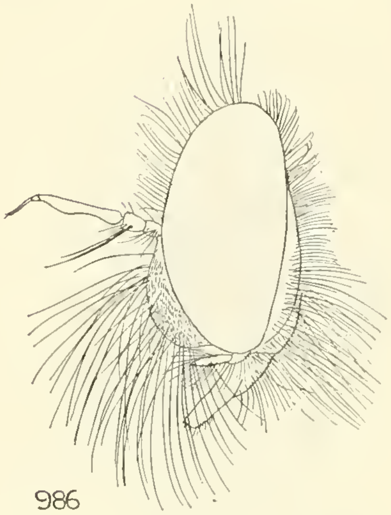
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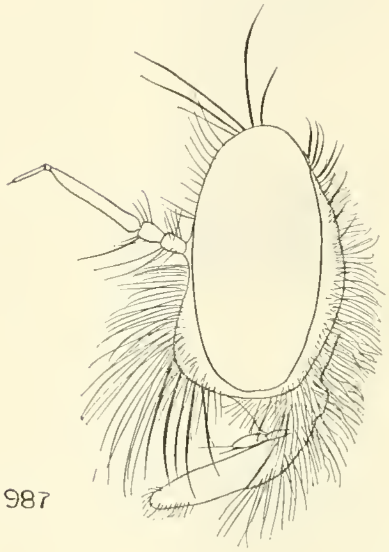
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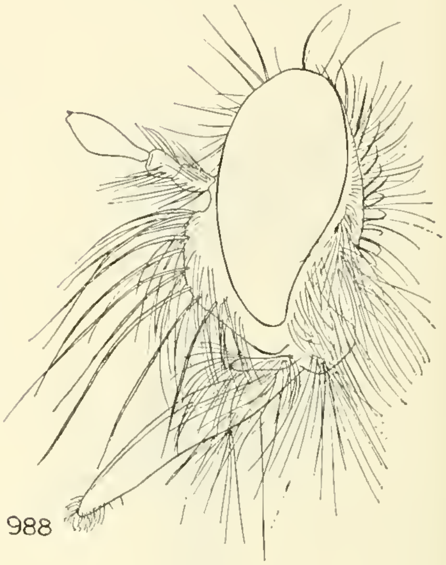
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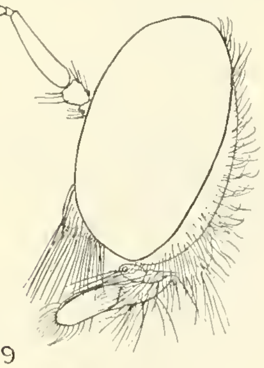
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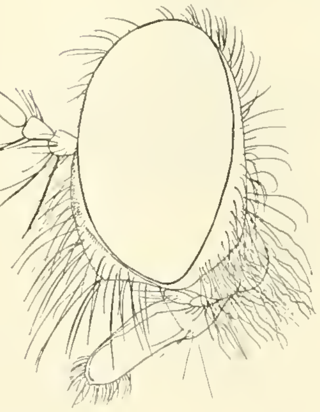
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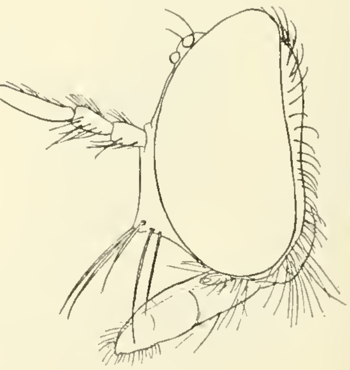
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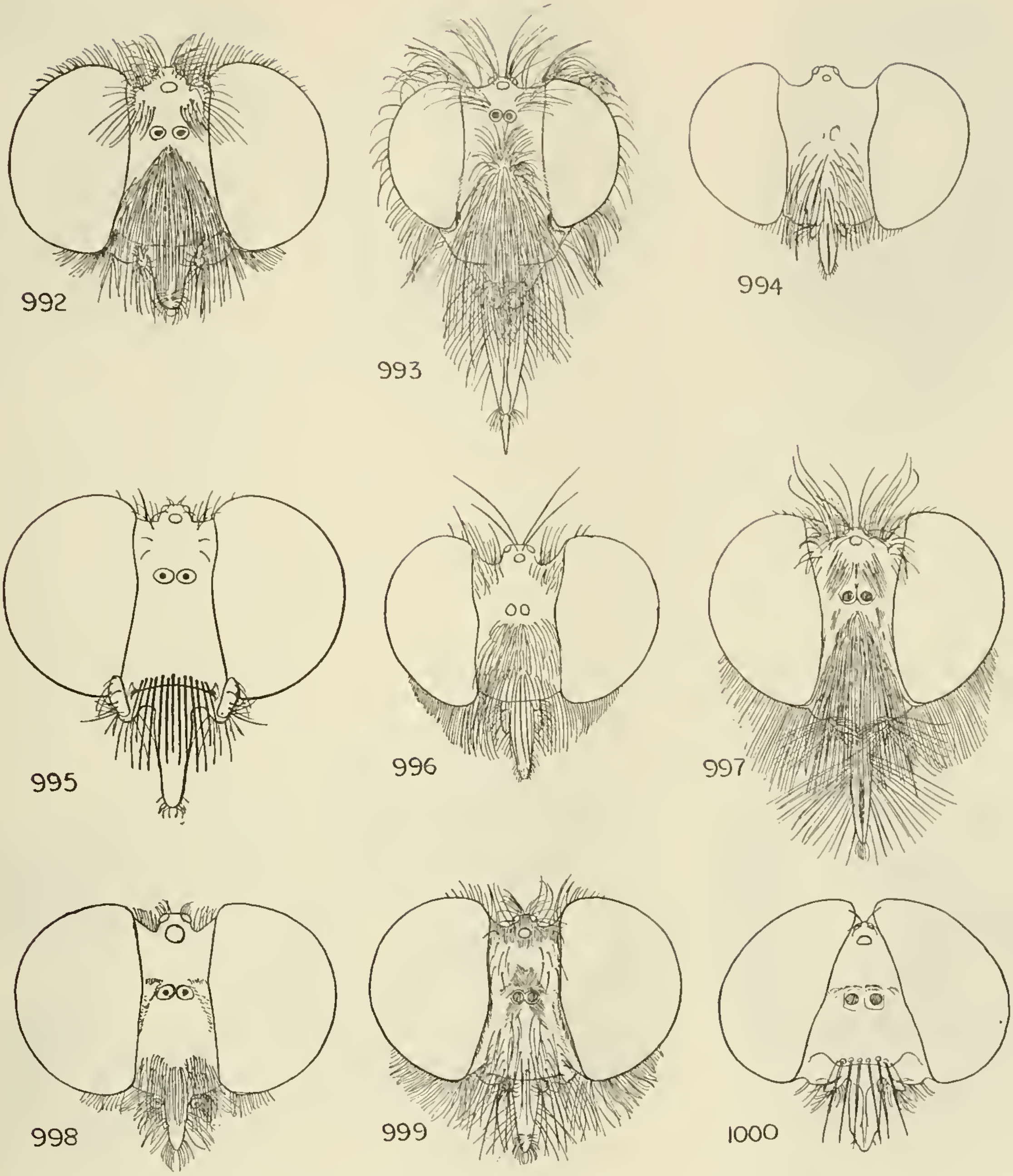

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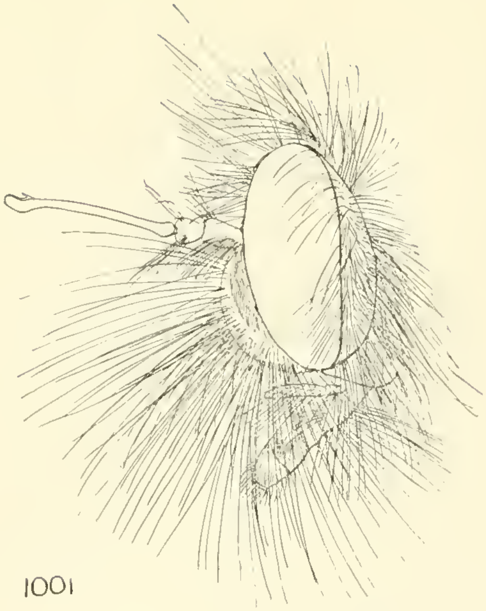
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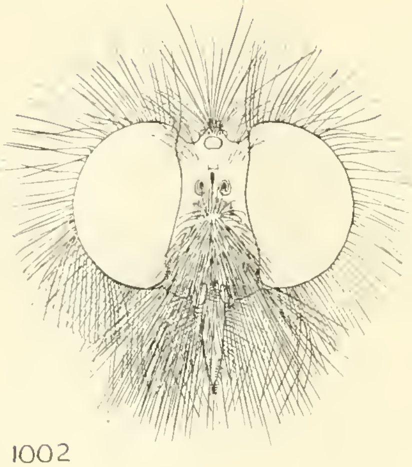
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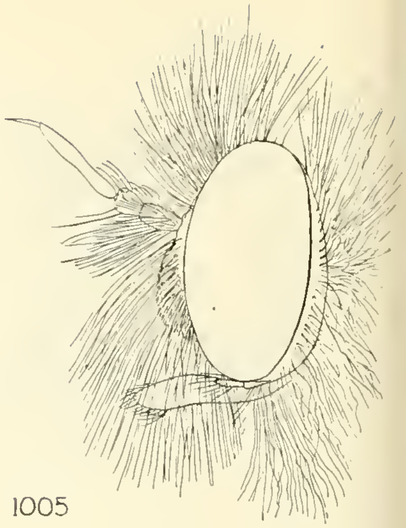
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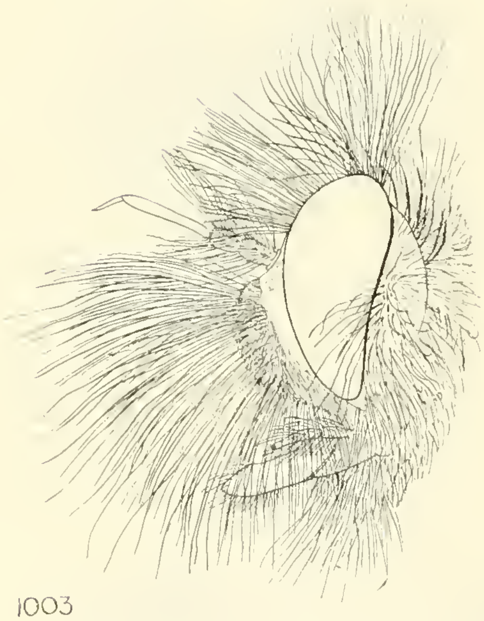
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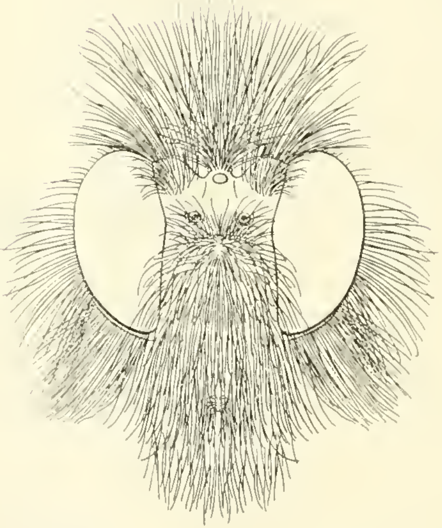
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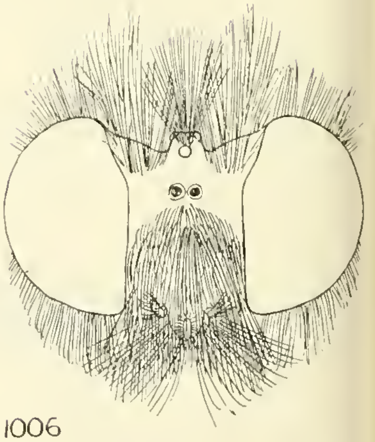
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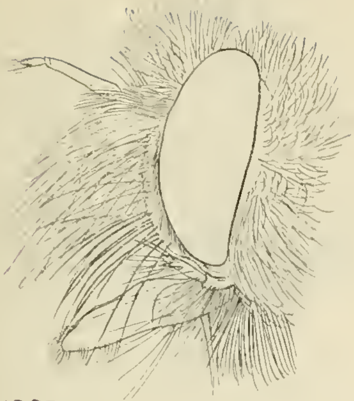

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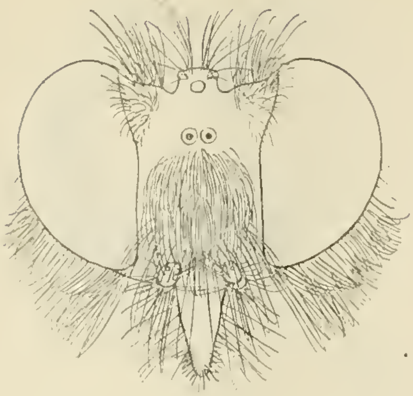

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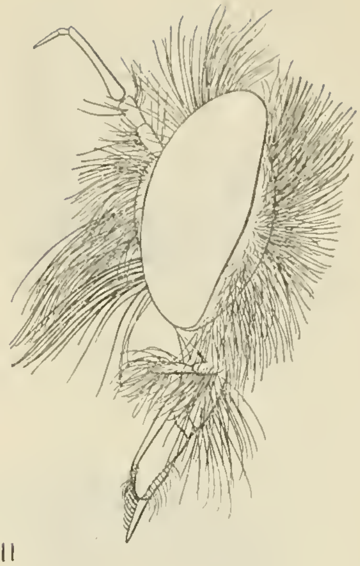

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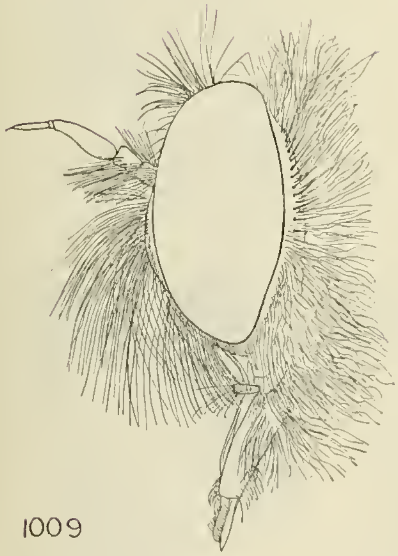

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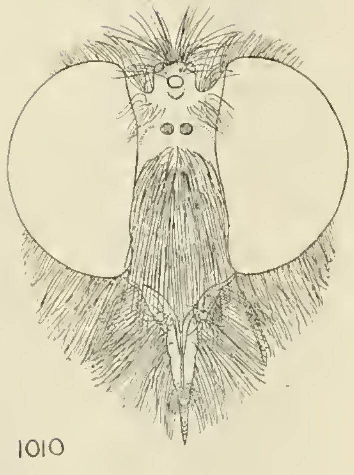

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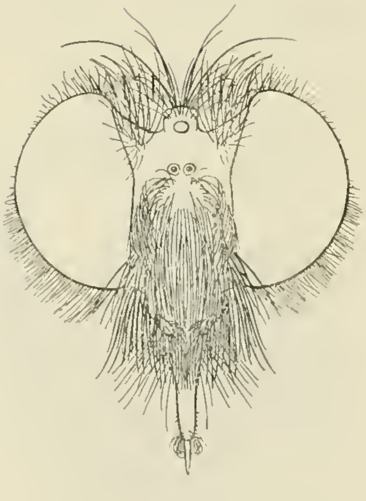

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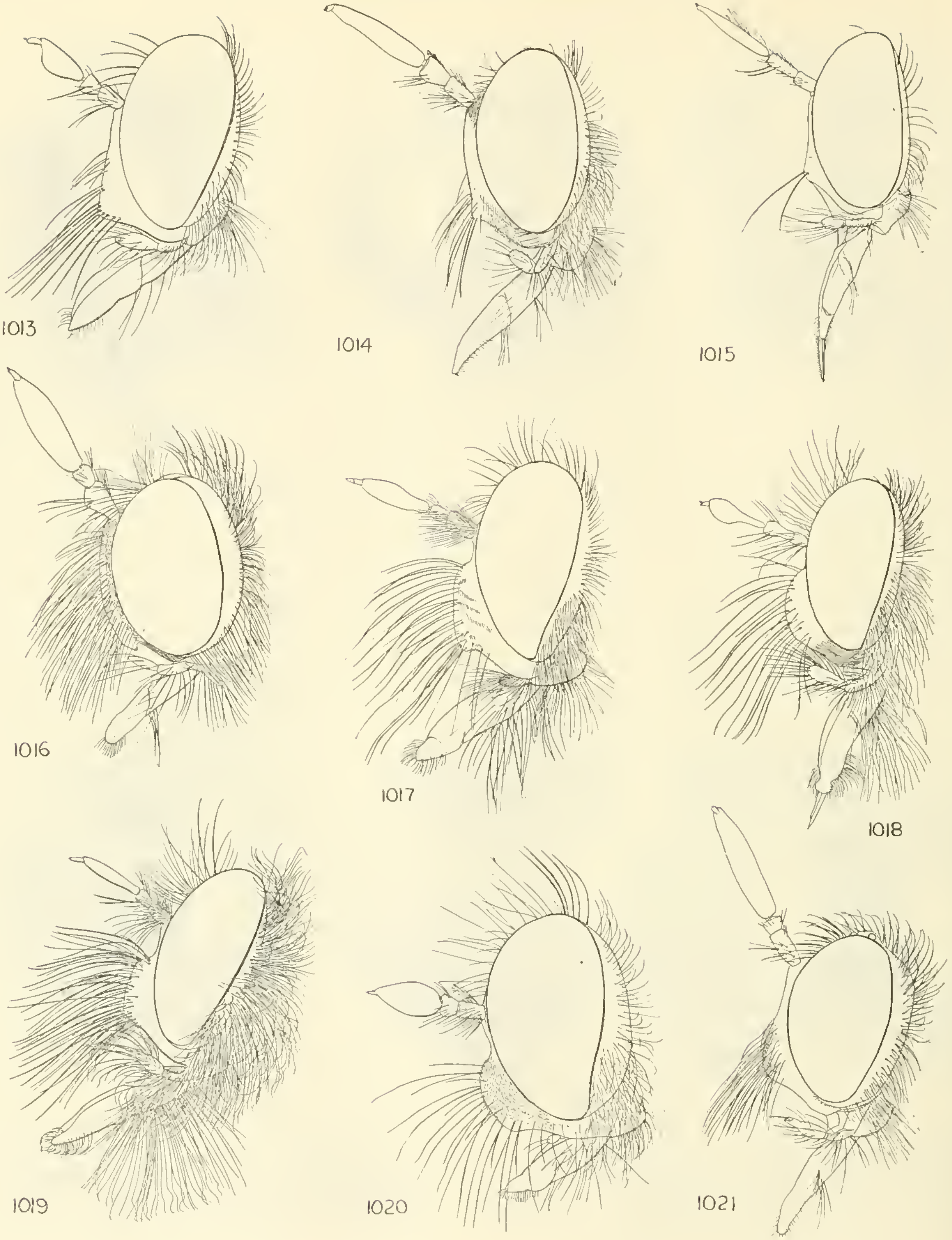

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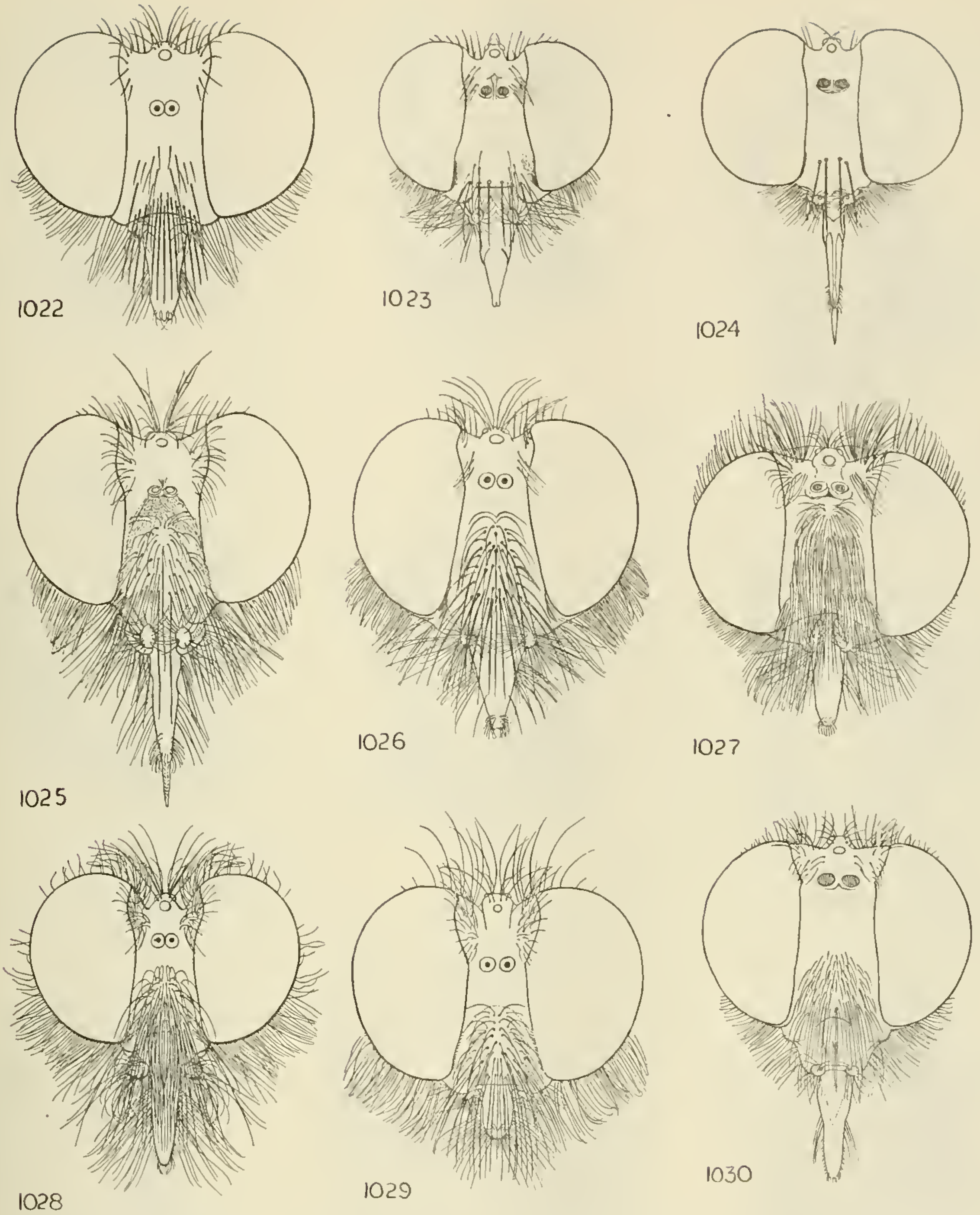
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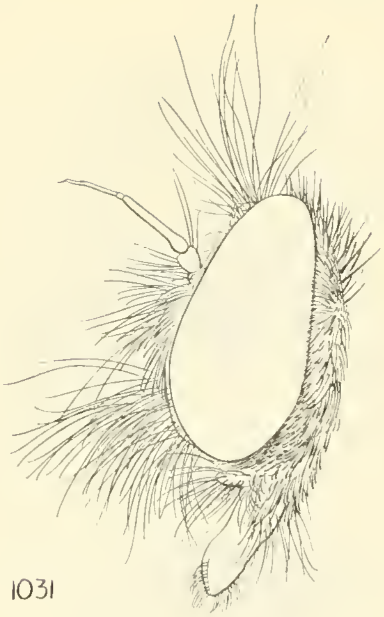
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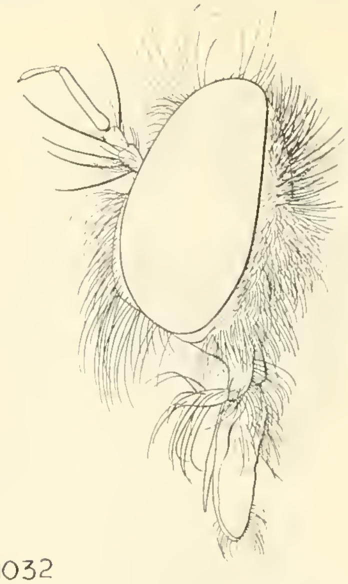
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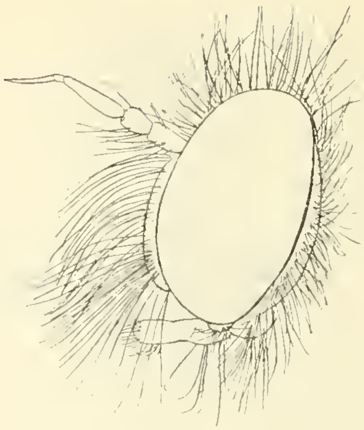
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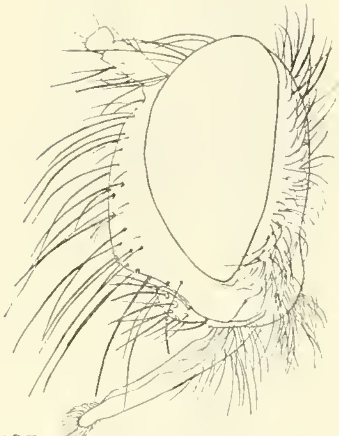
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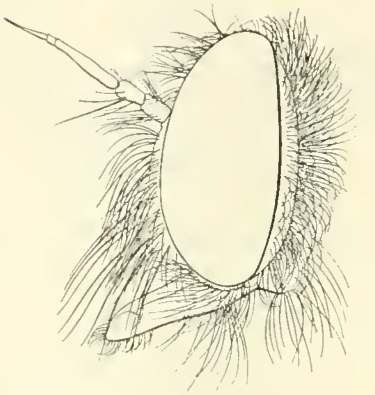
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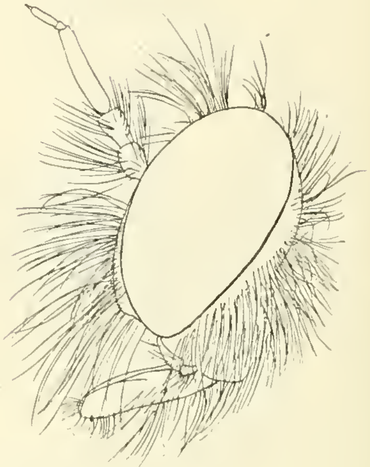
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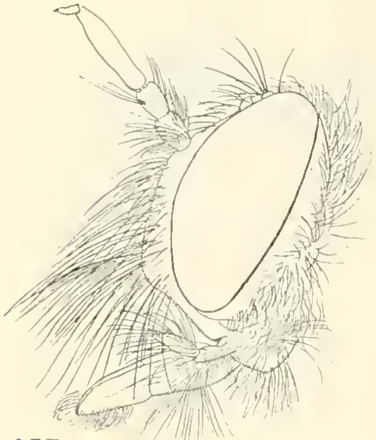
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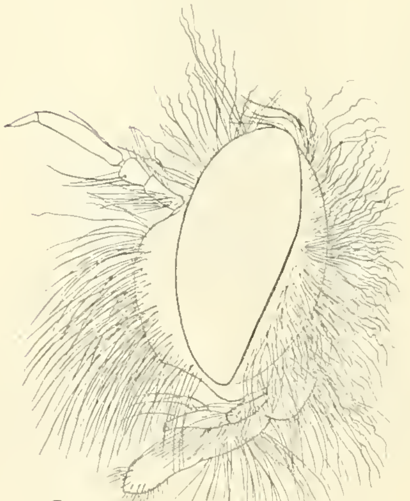
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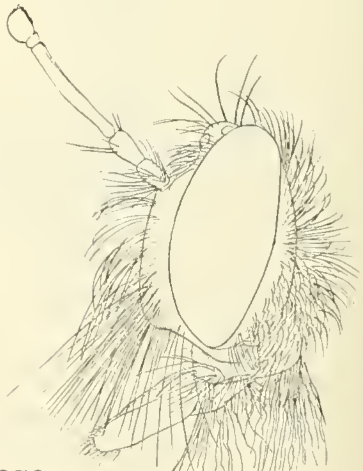
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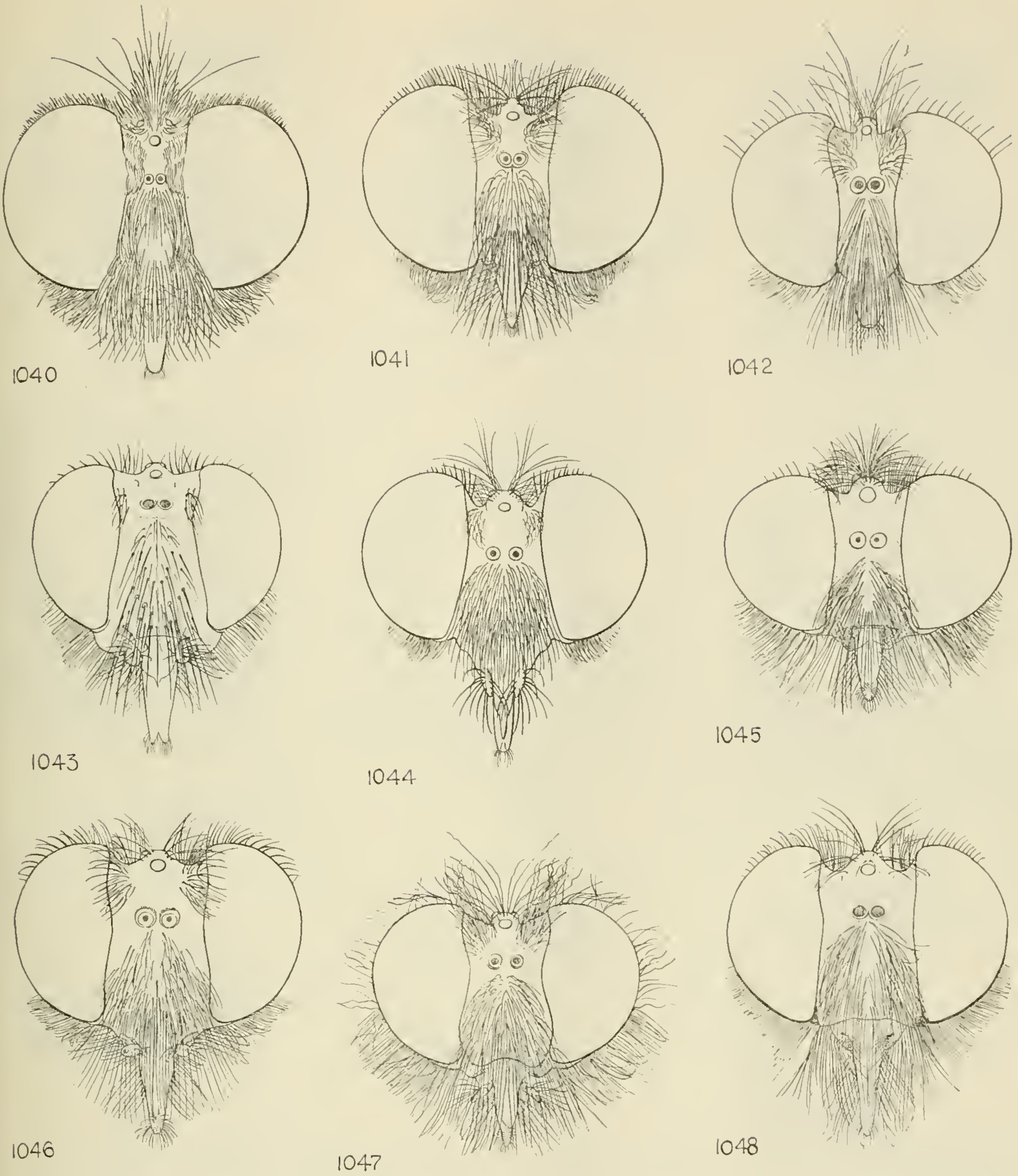

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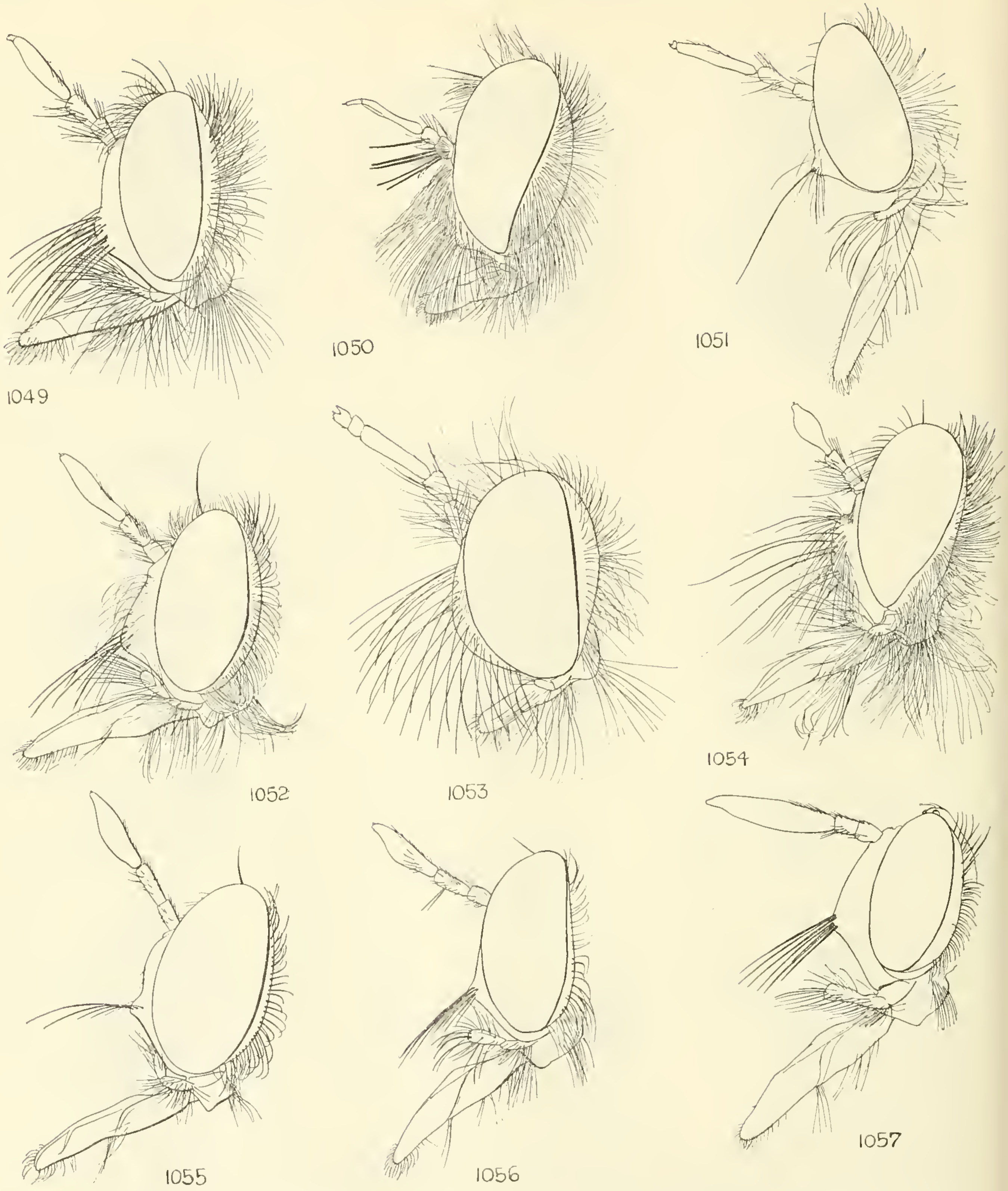

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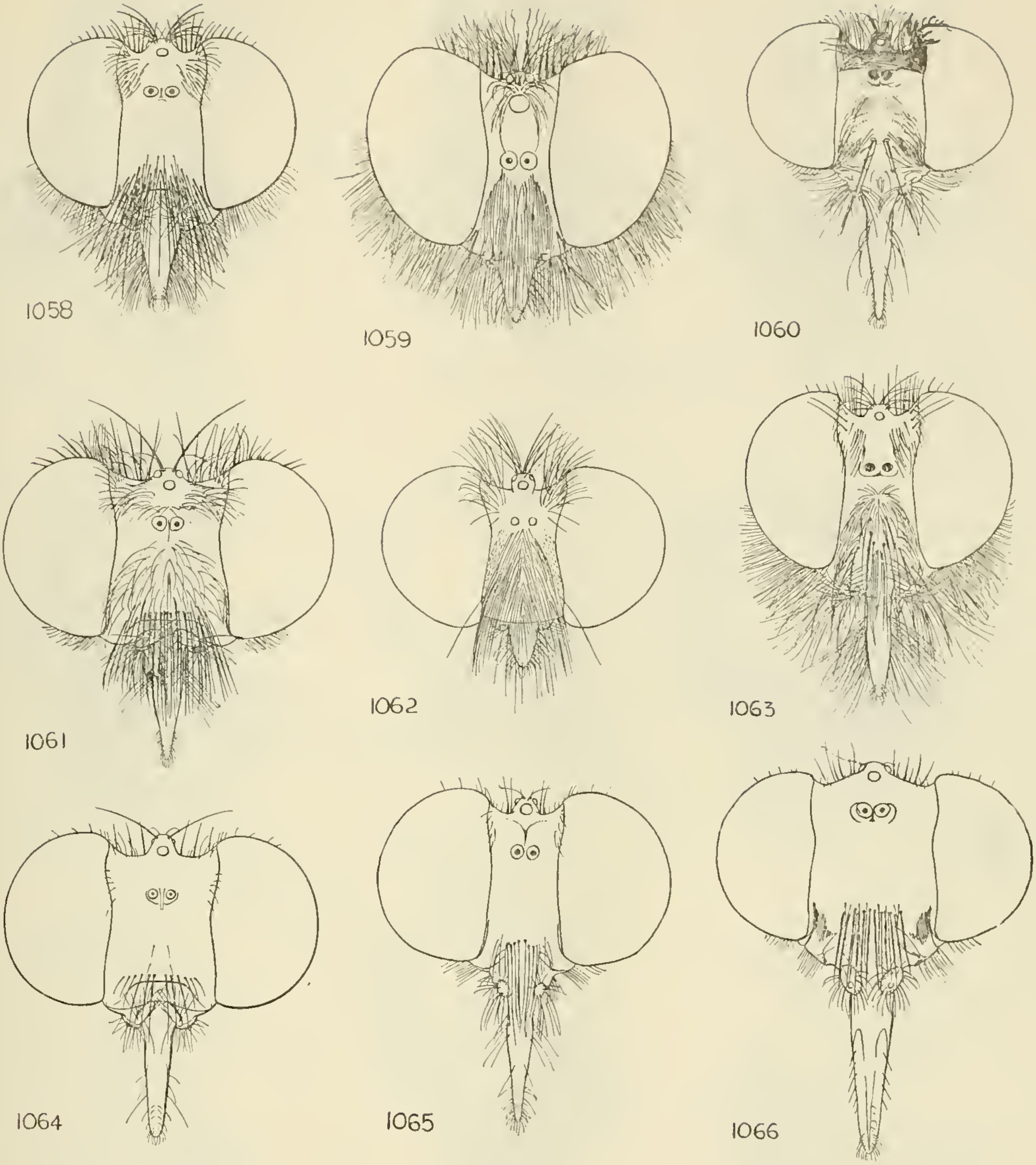
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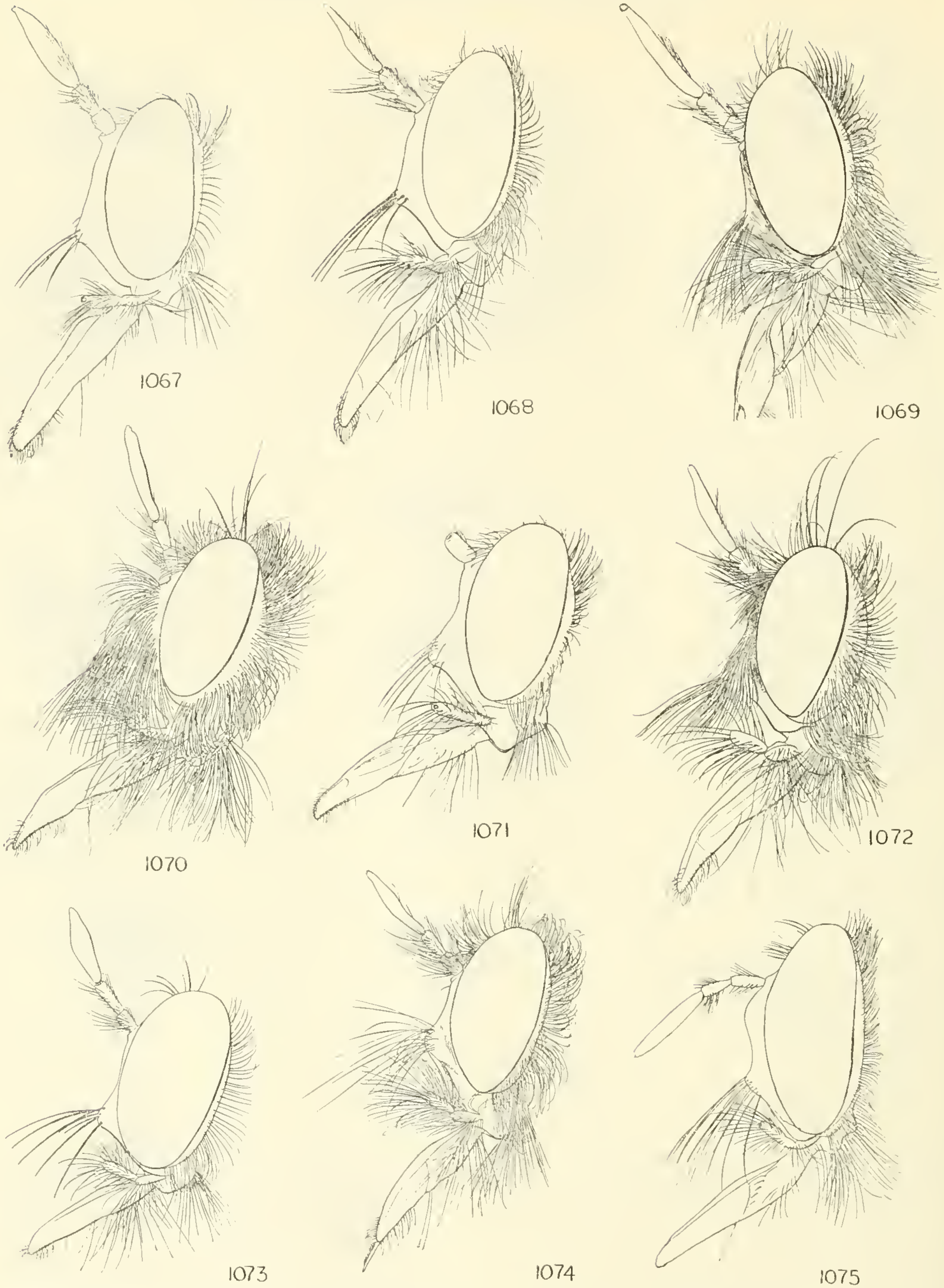

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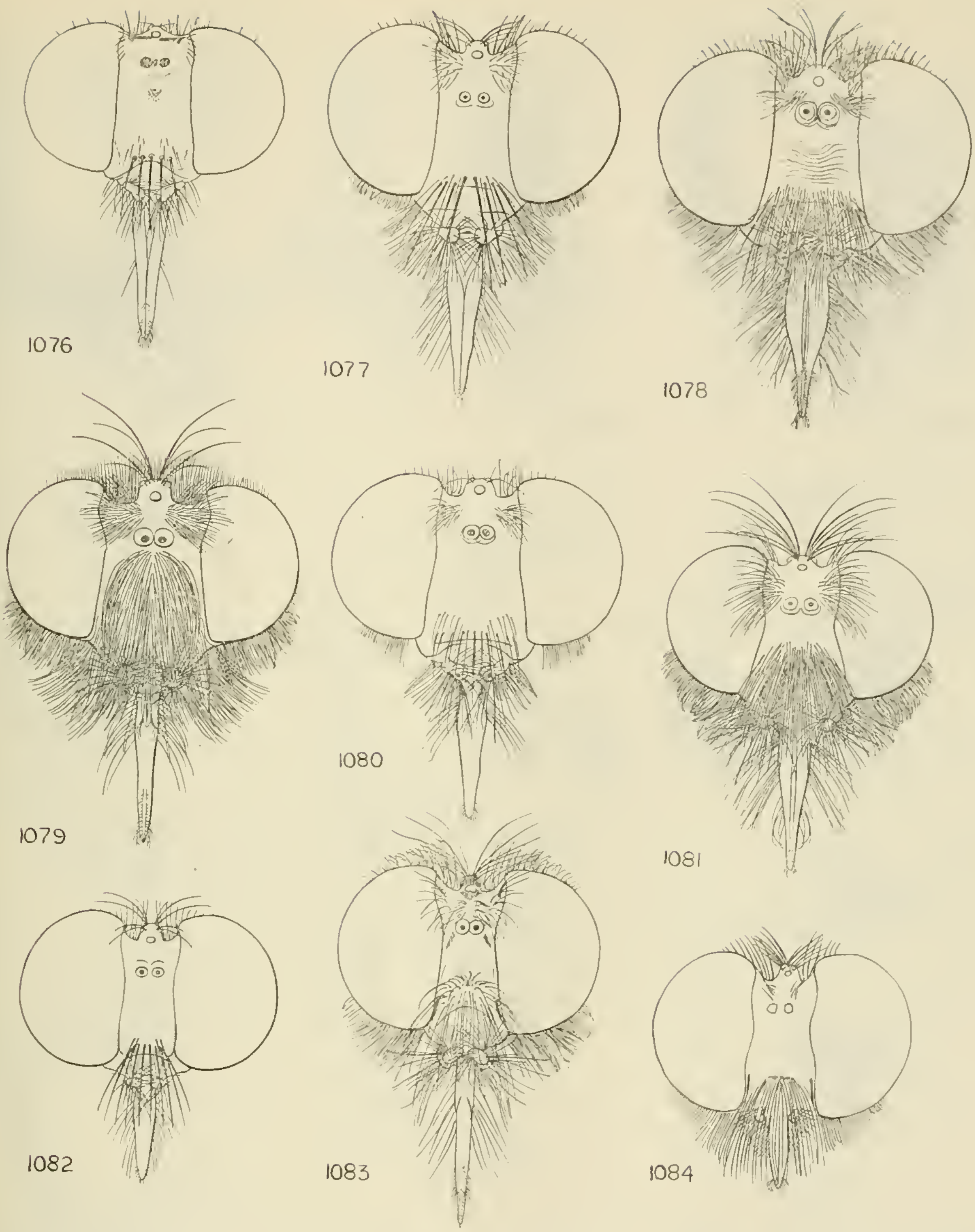
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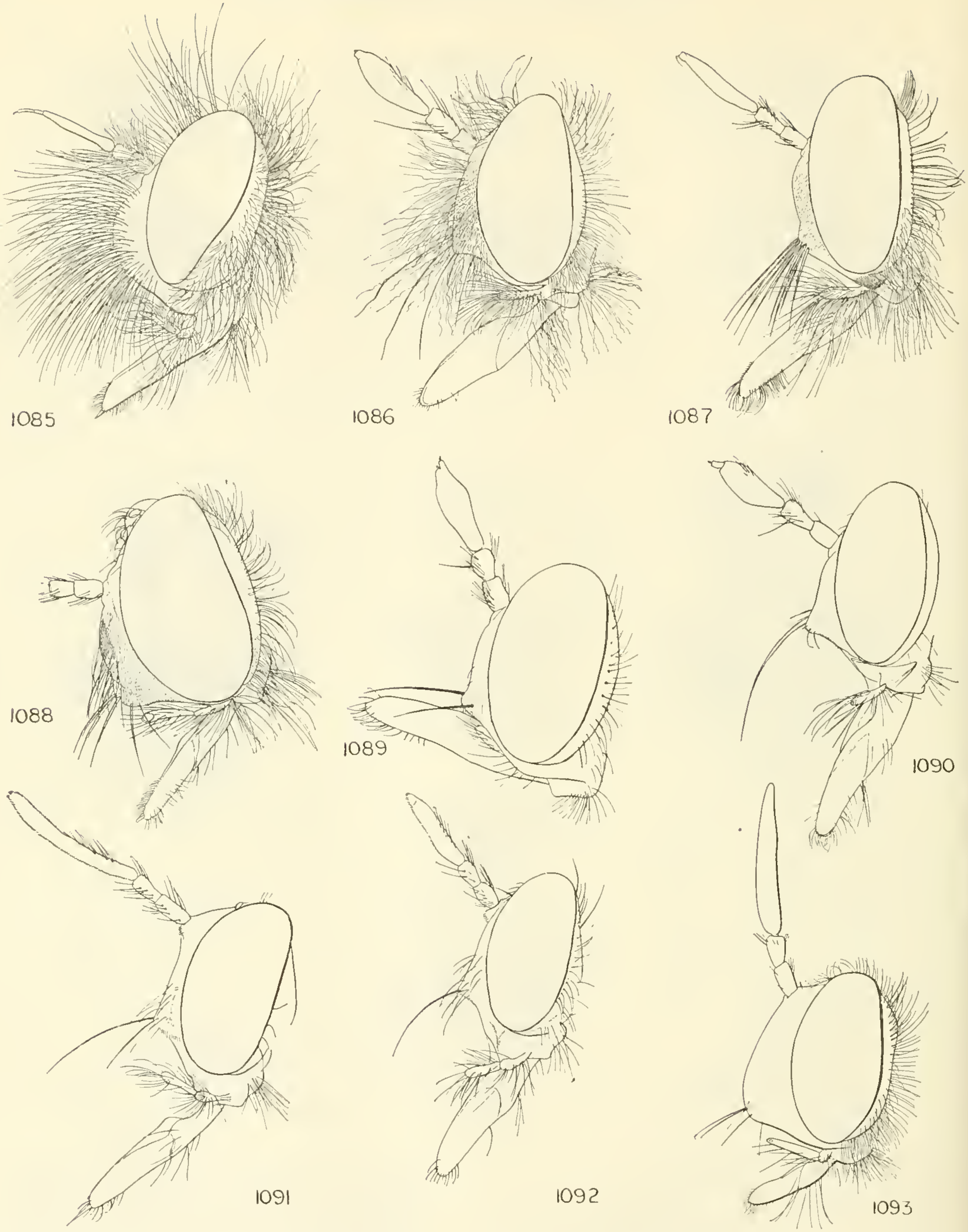
FIGURES 1076–1084.—1076, *Blepharepium coarctatum* Perty. 1077, *Neodiogmites melanogaster* Wiedemann. 1078, *Lastaurus anthracinus* Loew. 1079, *Lastaurina ardens* Wiedemann. 1080, *Lastaurax lanei* Carrera. 1081, *Lastauropsis* sp. 1082, *Chylophaga australis* Ricardo. 1083, *Lastauroides hirtuosus* Wiedemann. 1084, *Dakinomyia froggattii* Dakin and Fordham.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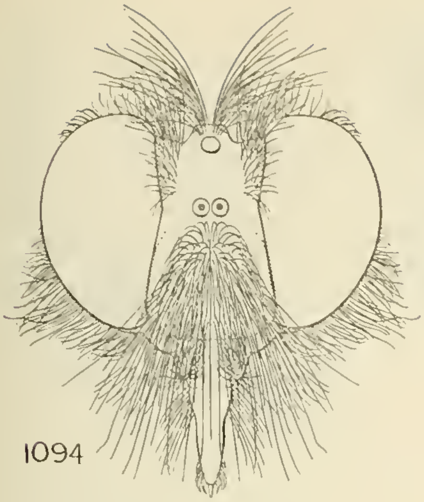
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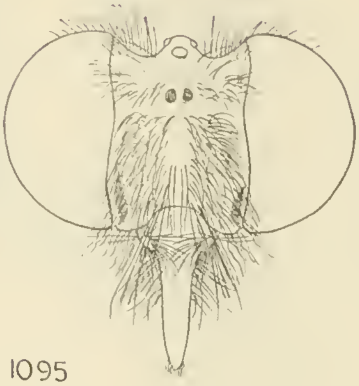
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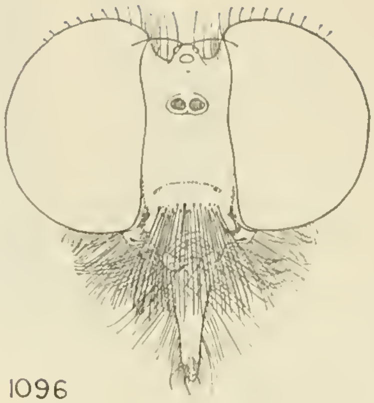
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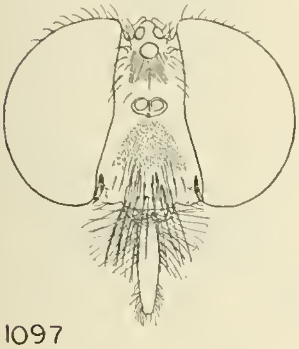
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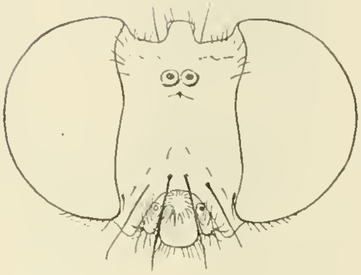
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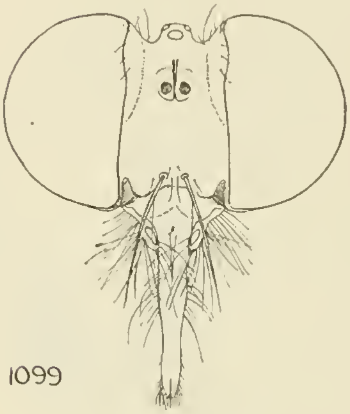
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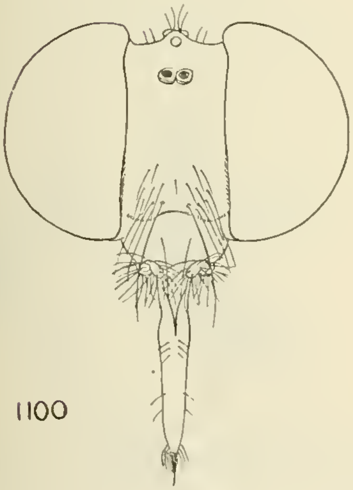
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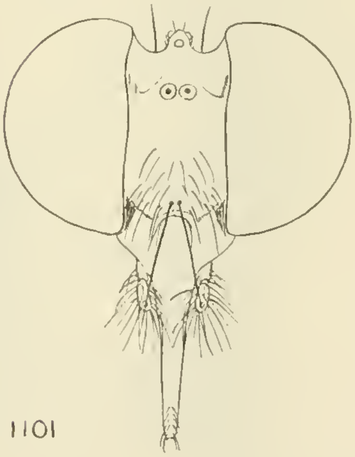
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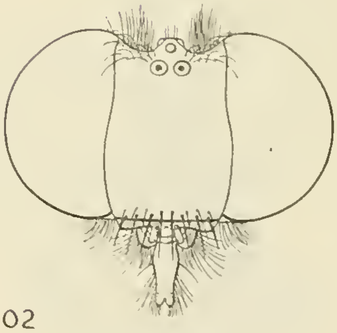
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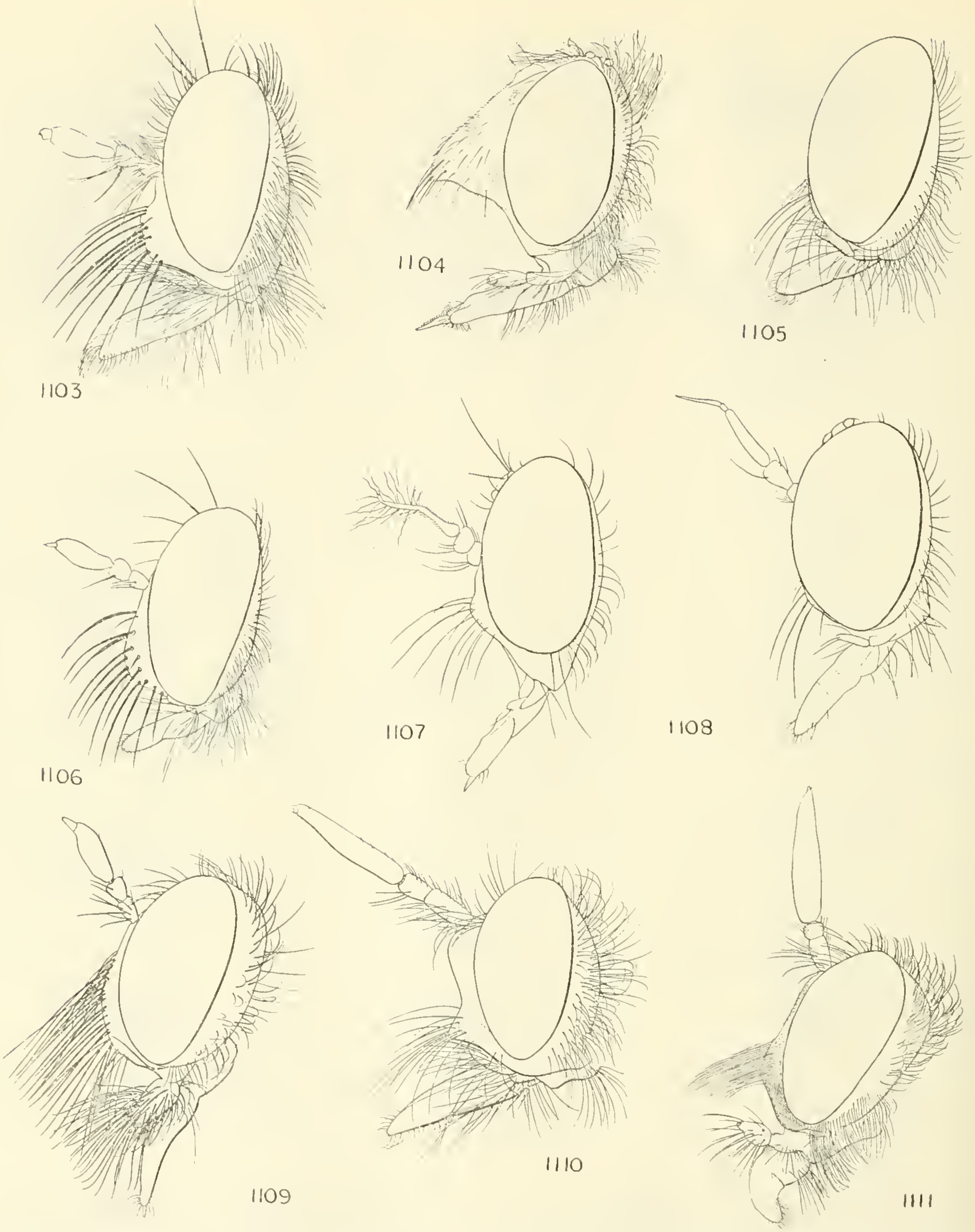

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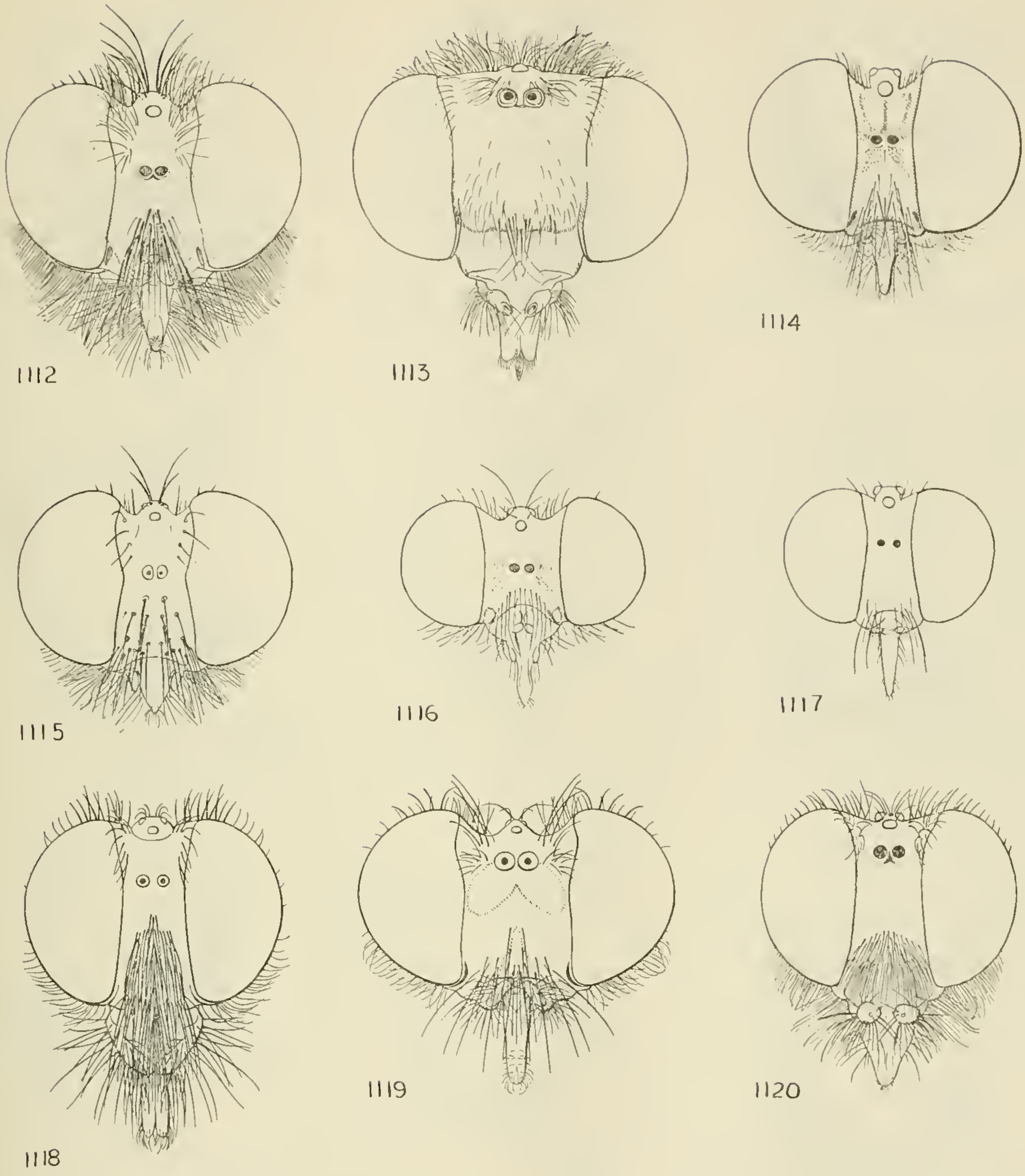
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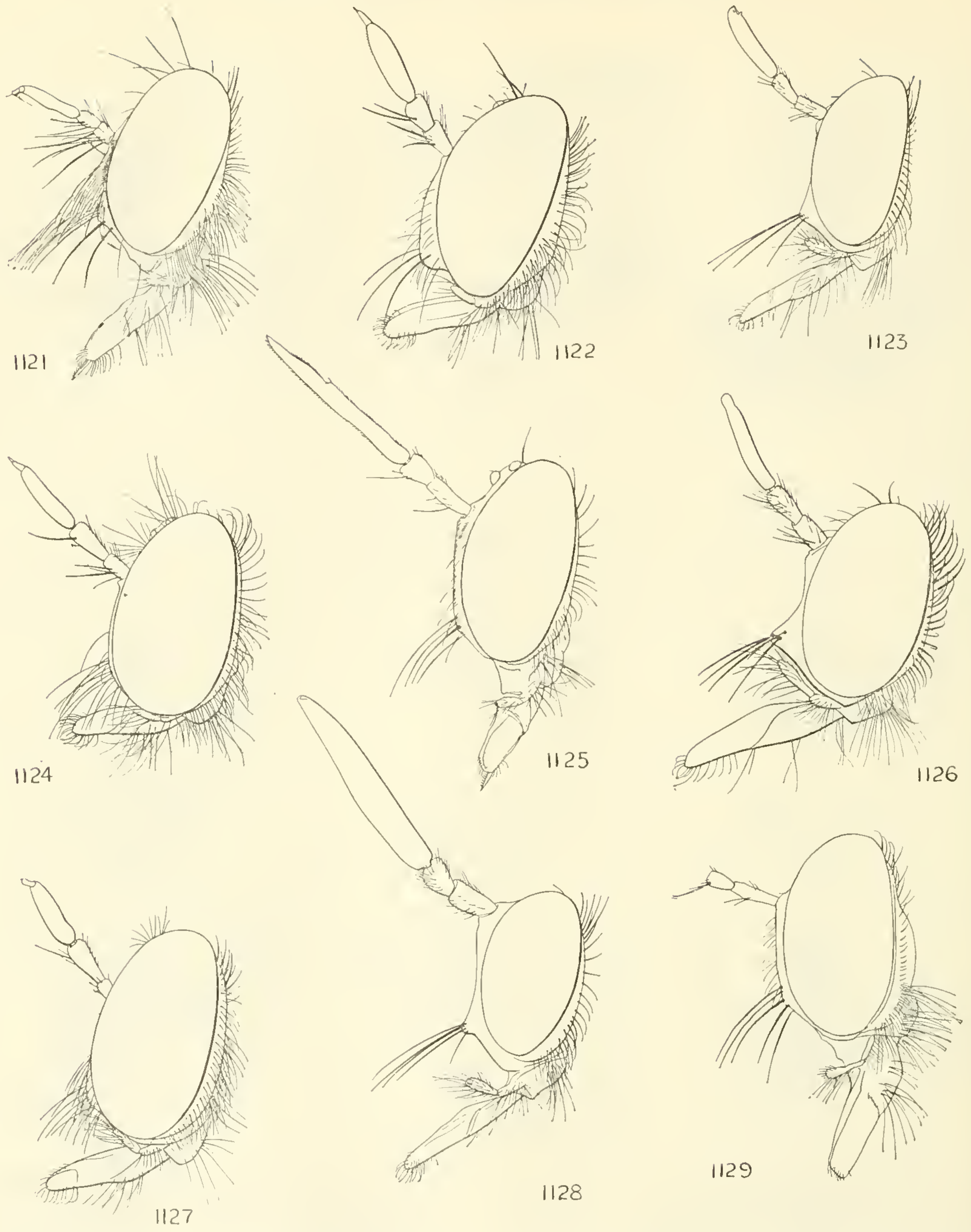
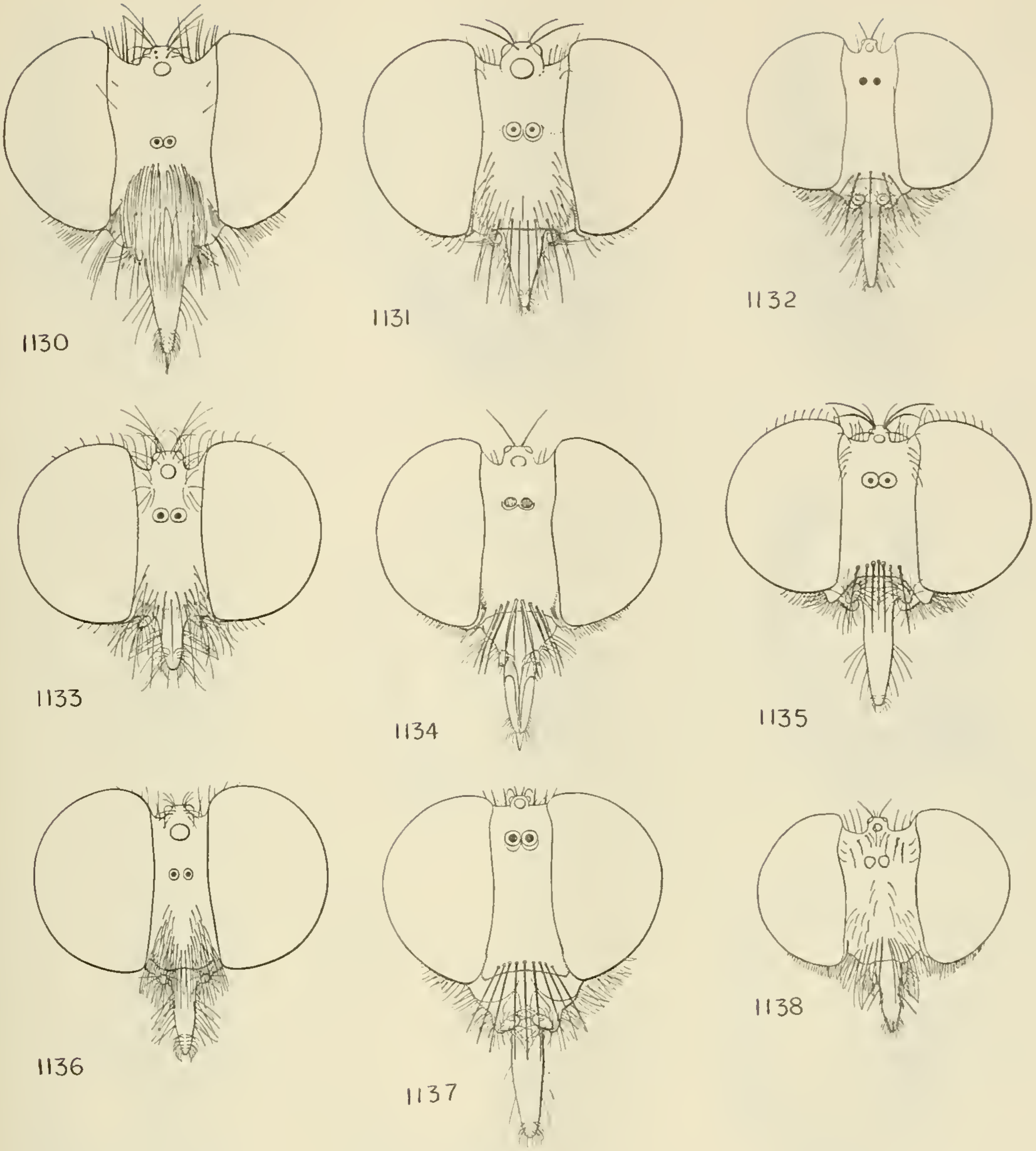


Figures 1121–1129.—1121, *Omninablautus arenosus* Pritchard, type. 1122, *Cophura sodalis* Osten Sacken, type. 1123, *Austenmyia amazona* Carrera. 1124, *Aterpogon* sp. 1125, *Taracticus octopunctatus* Say. 1126, *Aczelia infumatus* Lynch Arribálzaga. 1127, *Paraterpogon punctatus* Paramonov, in litt. 1128, *Tocantinia miser* Walker. 1129, *Archilaphria ava* Enderlein.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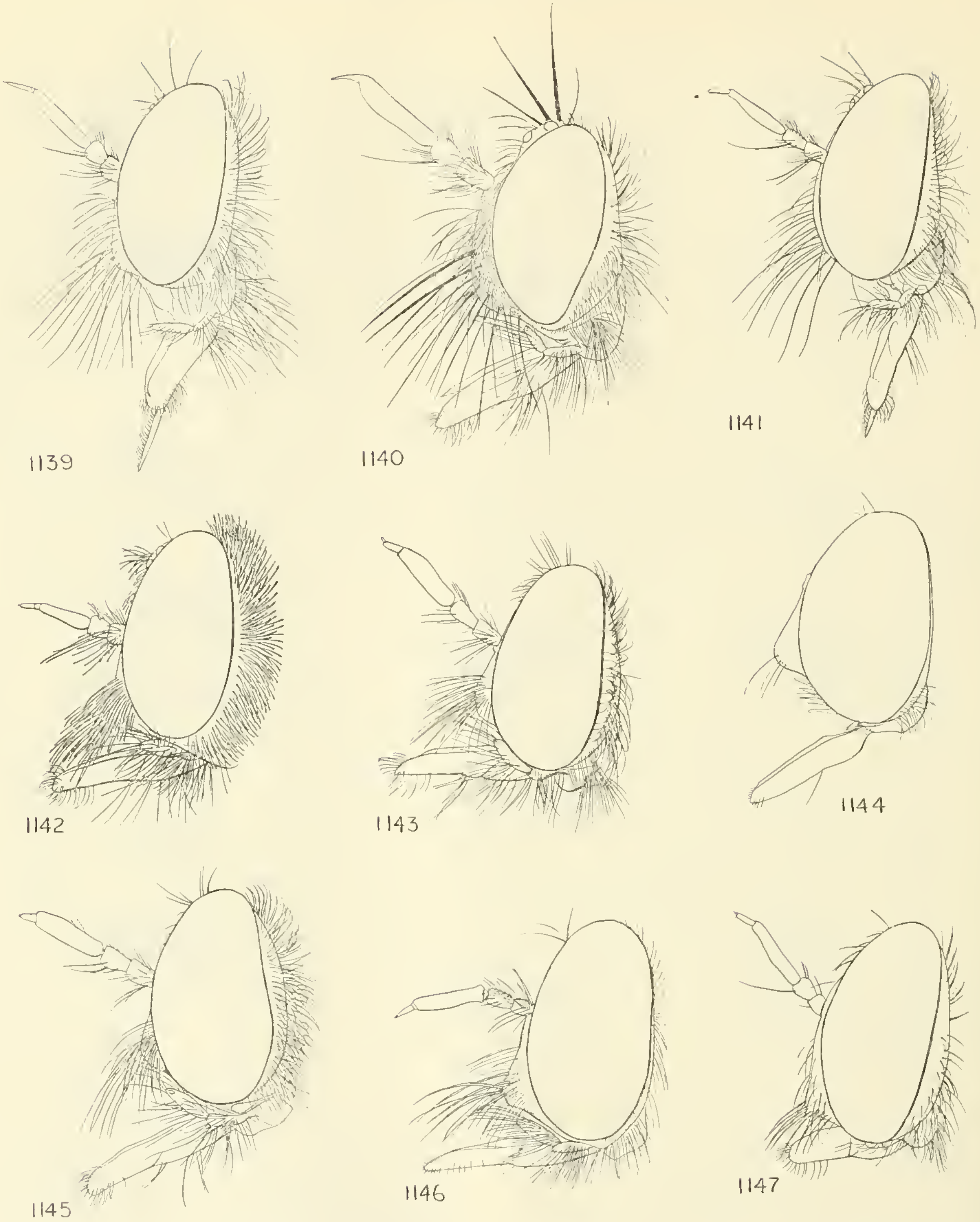
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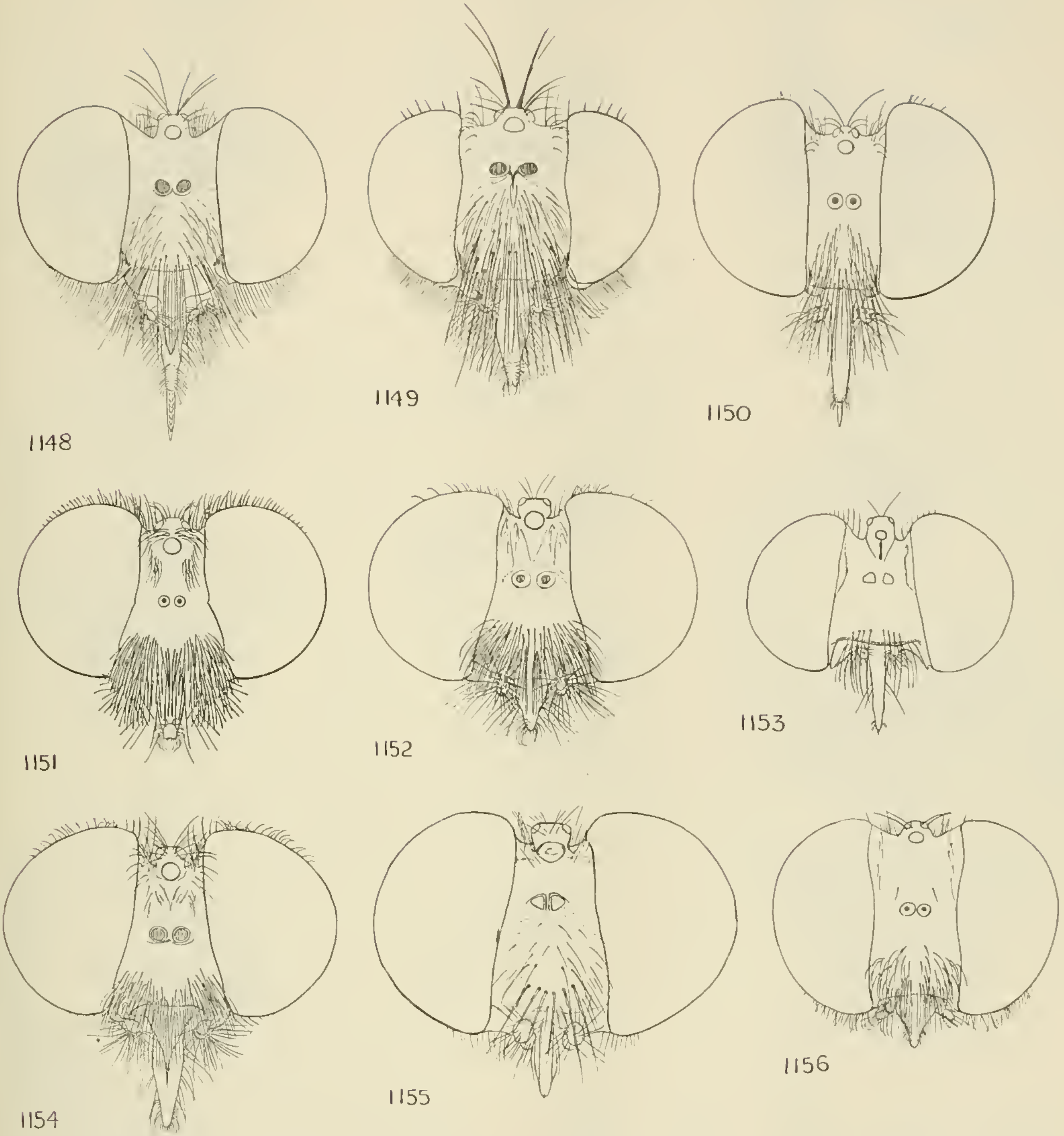
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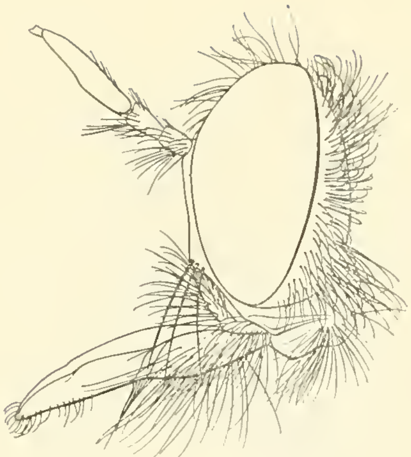
Figures 1148–1156.—1148, *Nicocles pictus* Loew. 1149, *Paraphamartania syriaca* Engel. 1150, *Aspidopyga cophuroides* Carrera. 1151, *Theromyia murina* Philippi. 1152, *Aphamartania frauenfeldi* Schiner. 1153, *Cleptomyia bacillifera* Carrera. 1154, *Aphamartania maculipennis* Macquart. 1155, *Annamyia maren* Pritchard. 1156, *Hodophylax aridus* James.



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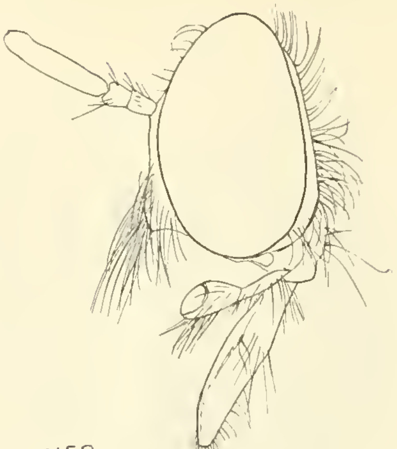

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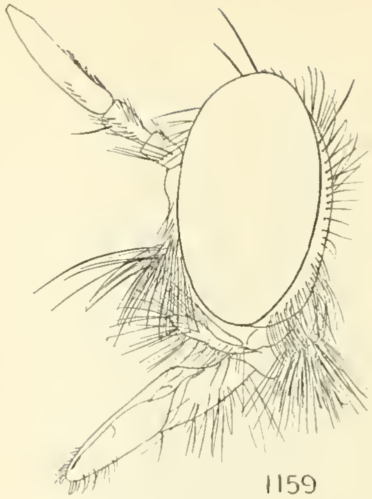

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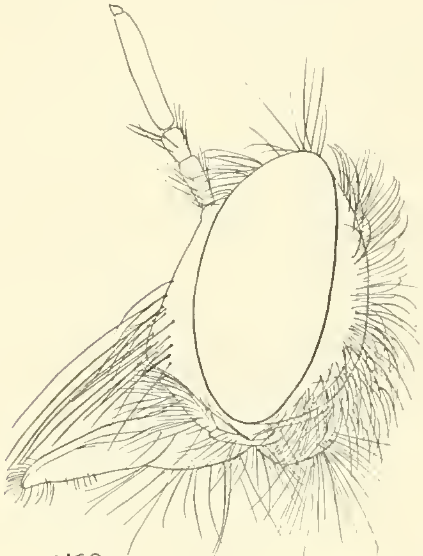

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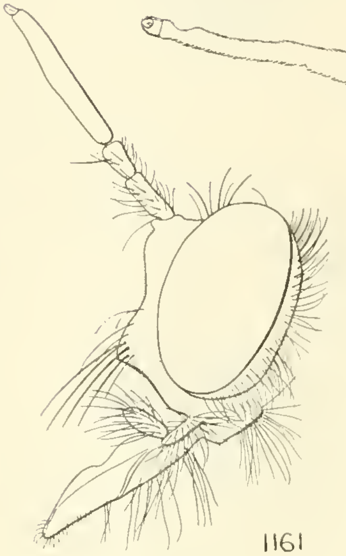

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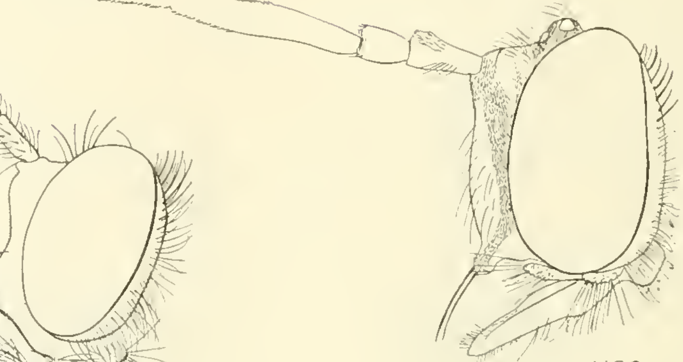

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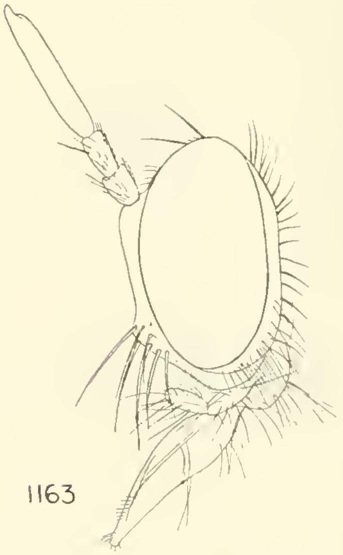

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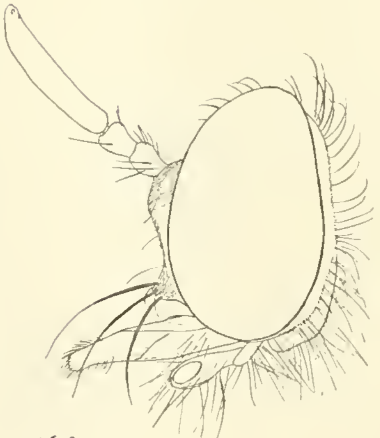

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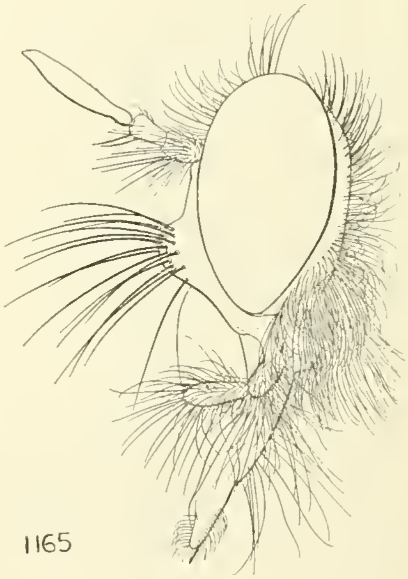

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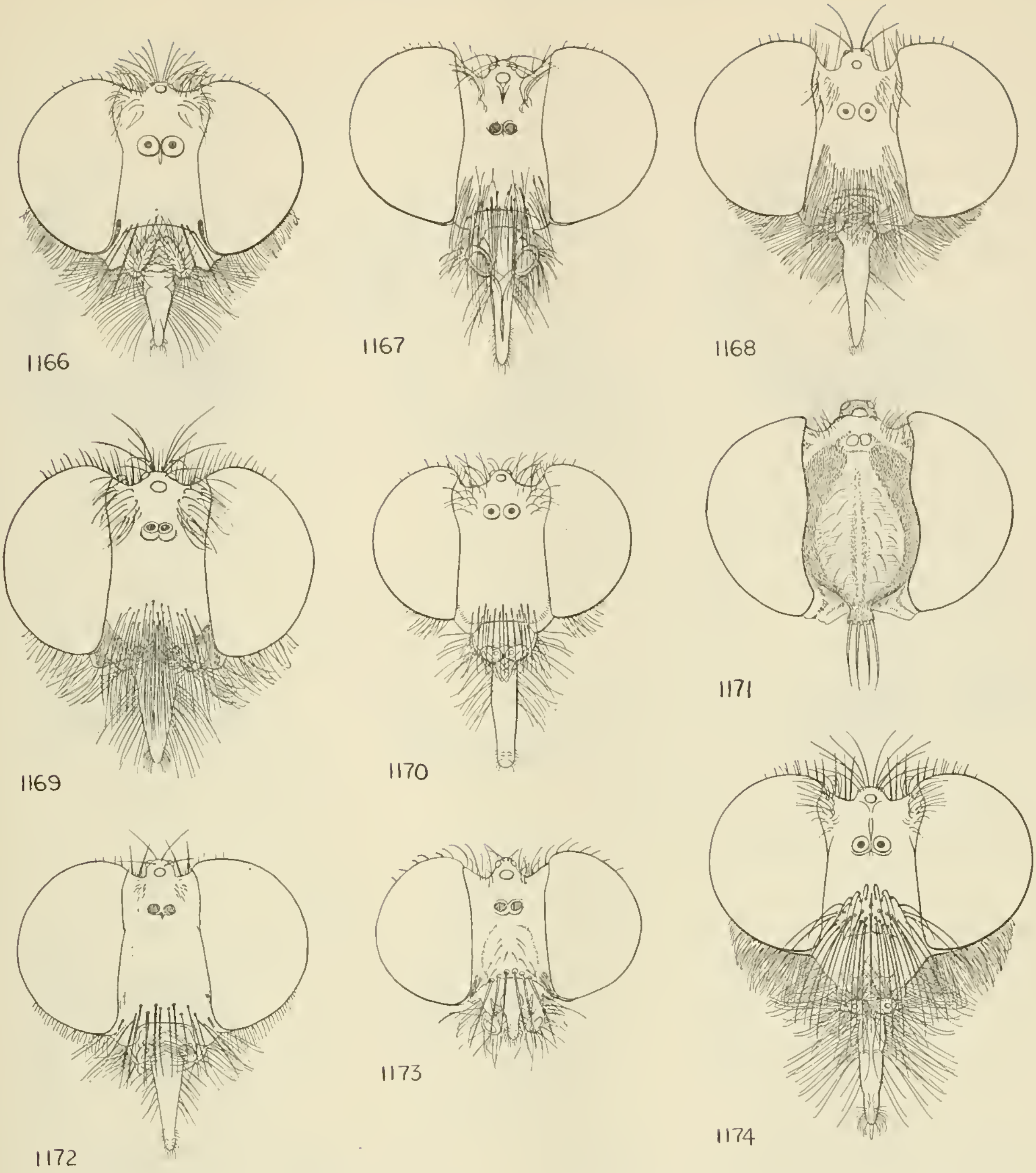

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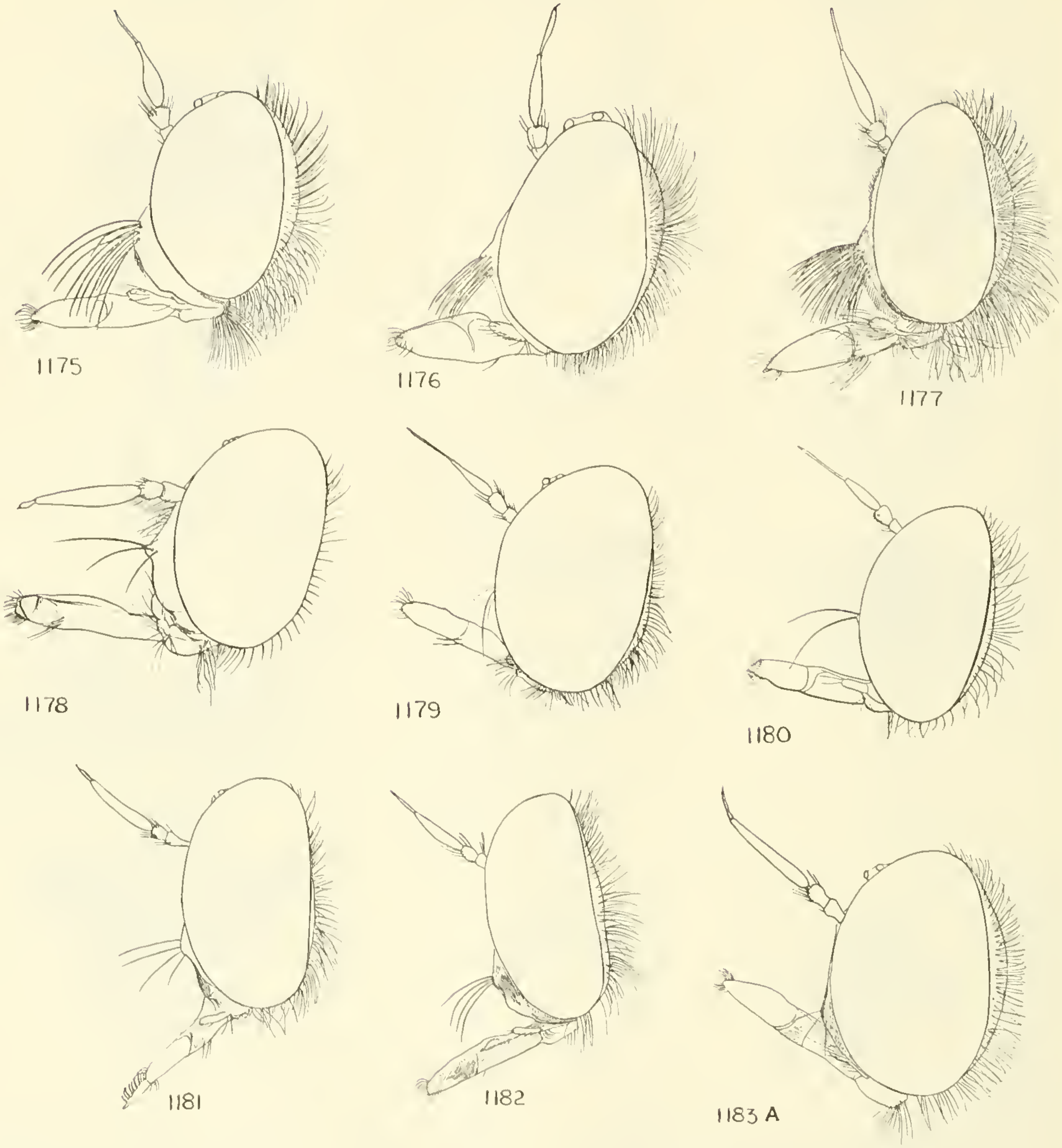
claviger Hardy. 1162, *Erythropogon ichneumoniformis* White. 1163, *Metalaphria australis* Ricardo. 1164, *Cabaza pulchella* Macquart. 1165, *Thereutria amaracus* Walker.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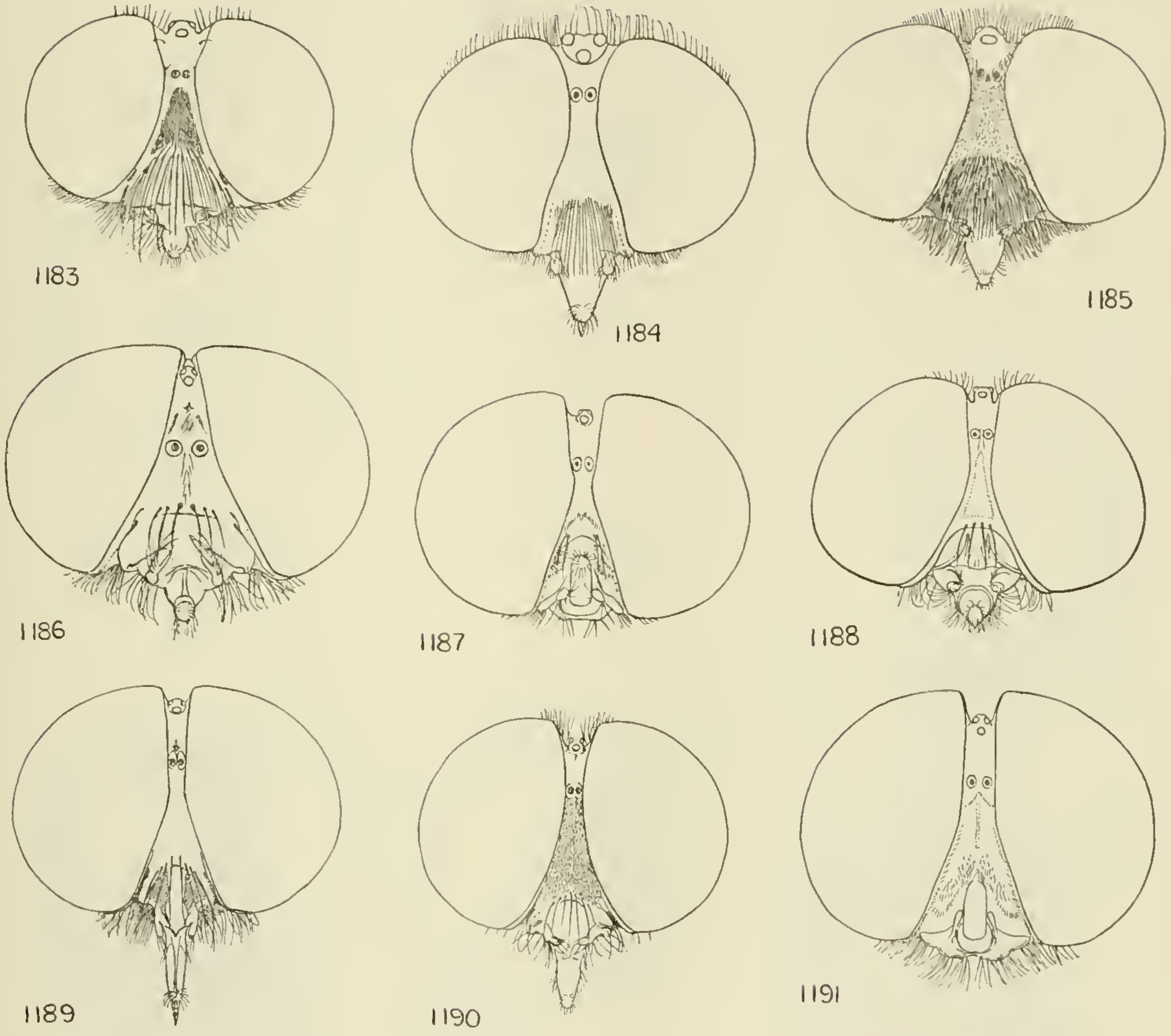
FIGURES 1175–1183A.—1175, *Leptogaster cylindrica* De Géer. 1176, *Dolichoscius* sp. 1177, *Euscelidia rapax* Westwood. 1178, *Acronyches imitator* Hermann. 1179, *Mesoleptogaster fuscatipennis* Frey. 1180, *Systellogaster fascipennis* Hermann. 1181, *Lagynogaster sauteri* Hermann. 1182, *Lagynogaster* sp. 1183A, *Ophionomima solocifemur* Enderlein.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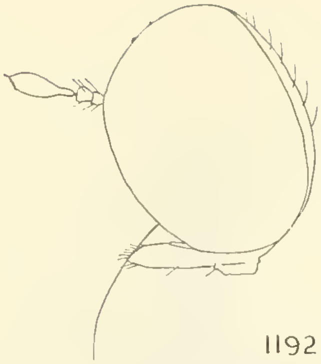

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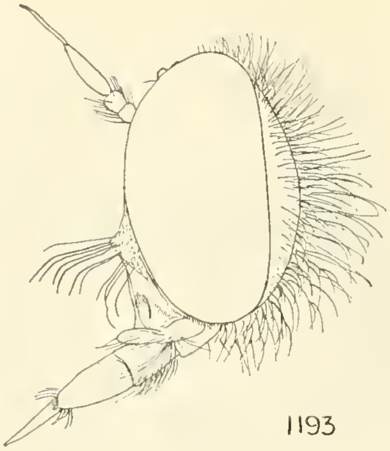

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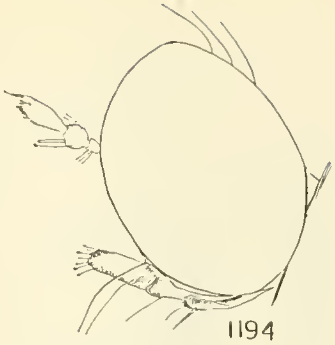

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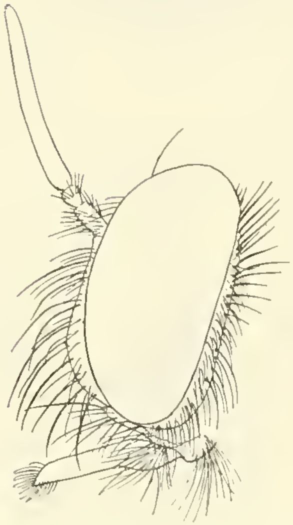

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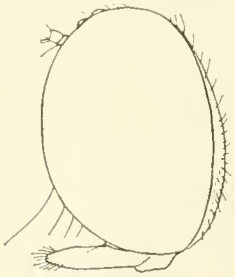

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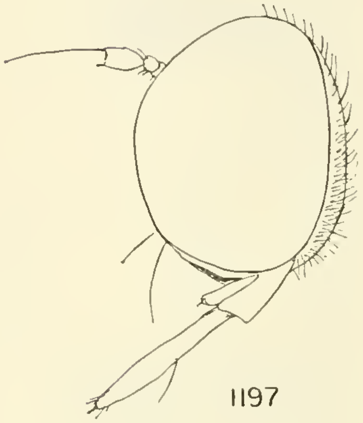

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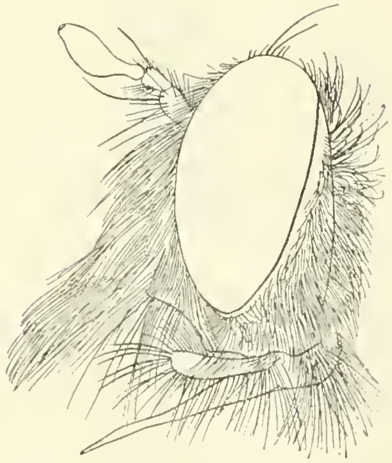

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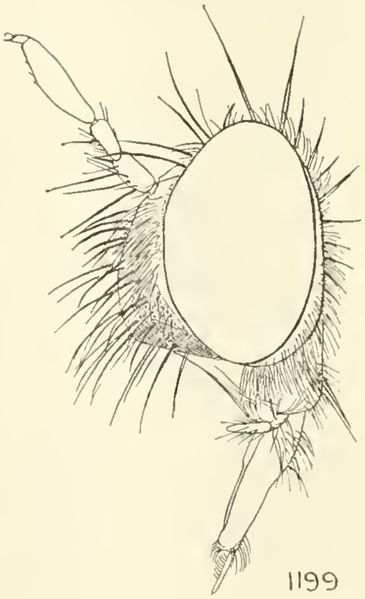

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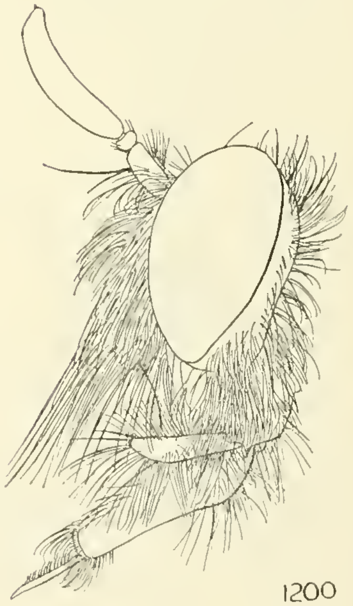

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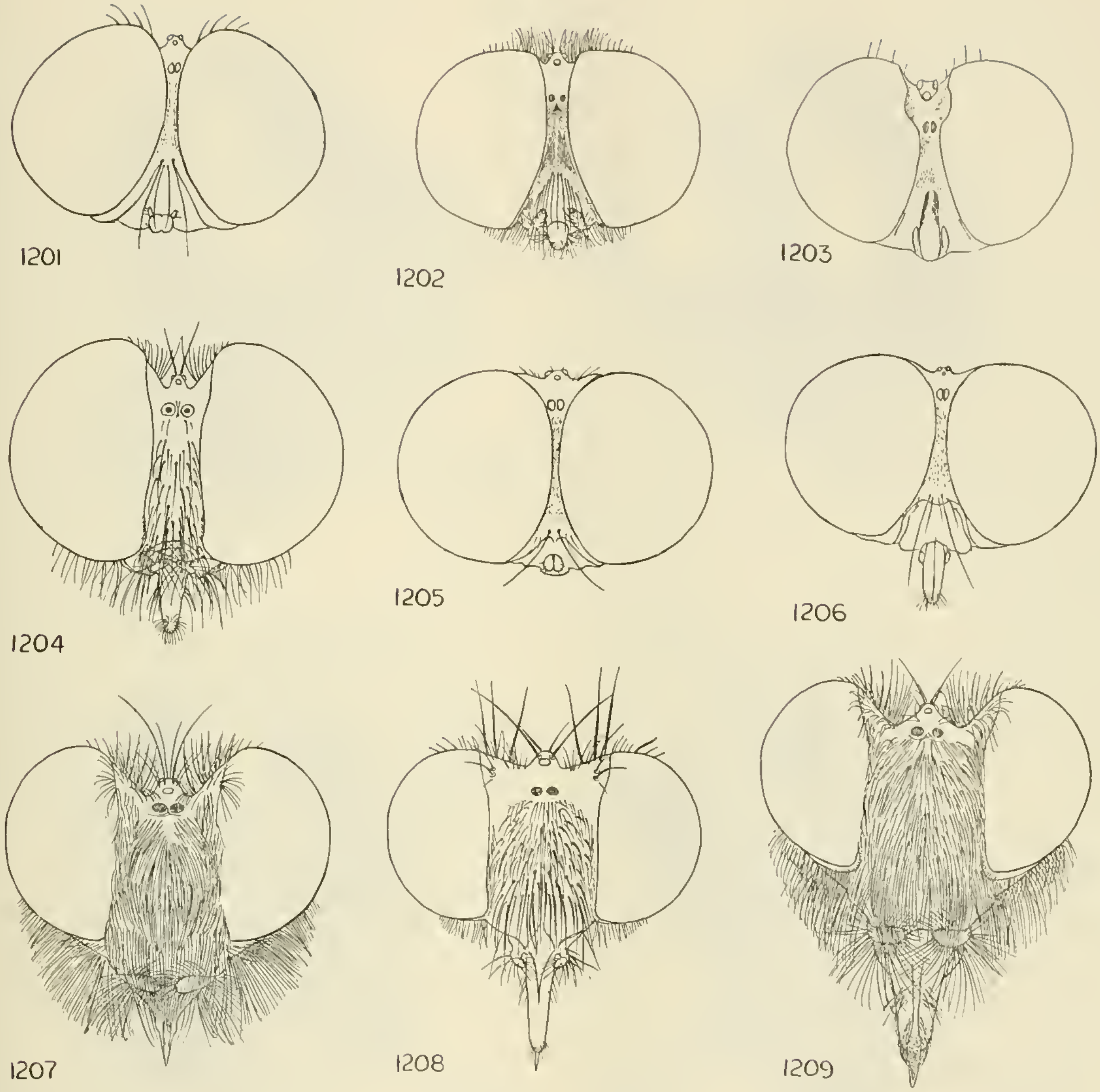
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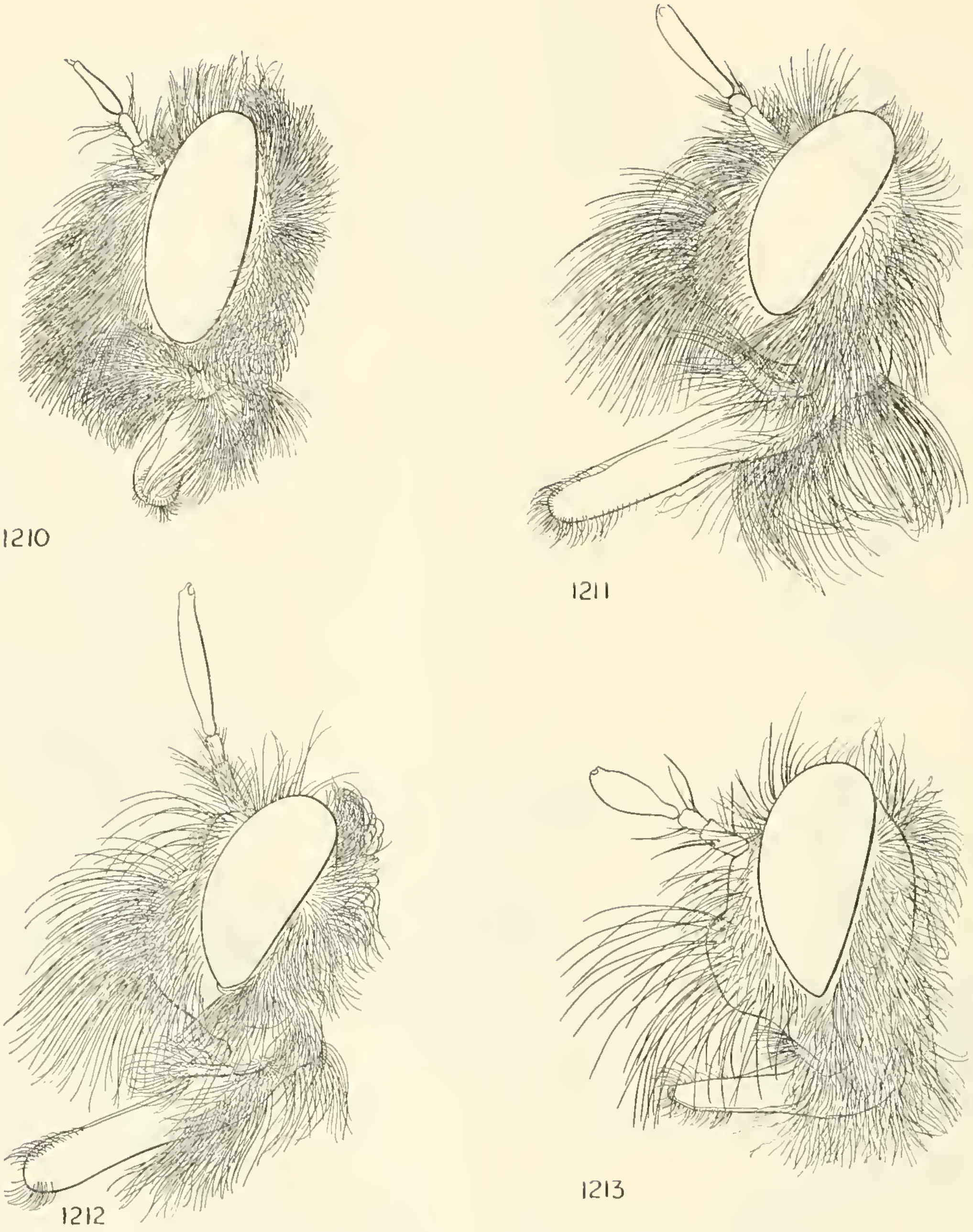
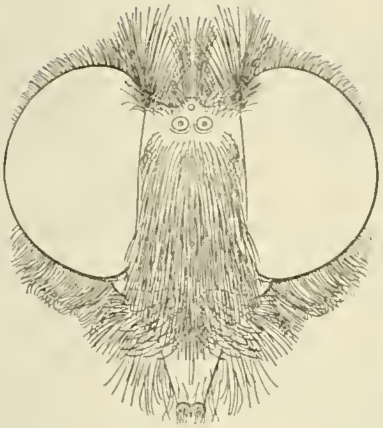
Figures 1201–1209.—1201, *Schildia microthorax* Aldrich. 1202, *Lasiocnemus lugens* Loew. 1203, *Shannomyioleptus fragilis* Carrera. 1204, *Aphestia annulipes* Macquart. 1205, *Eurhabdus zephyreus* Aldrich. 1206, *Leptopteromyia americana* E. Hardy. 1207, *Ctenota molitrix* Loew. 1208, *Anypodetus fasciatus* Hermann. 1209, *Paractenota efflatouni* Engel.



Figures 1210–1213.—1210, *Dasylechia atrox* Williston. 1211, *Laphria gibbosus* Linné. 1212, *Bombomima fulvithorax* Fabricius. 1213, *Andrenosoma atra* Linné.



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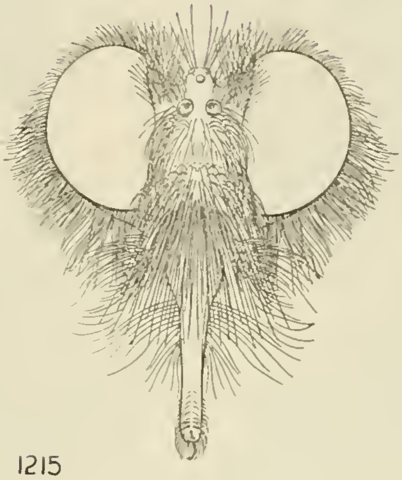

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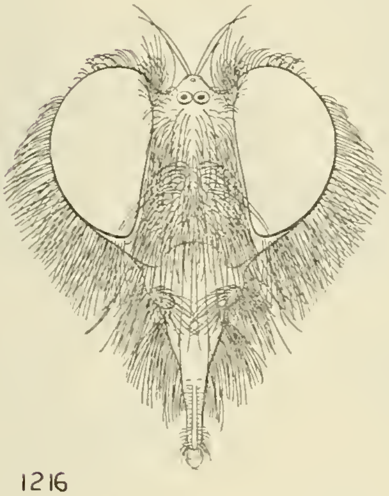

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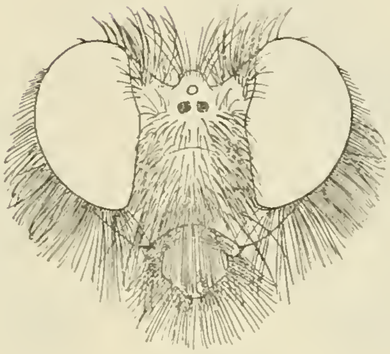

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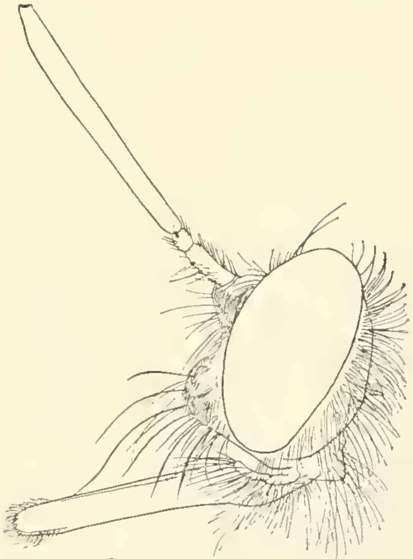
Figures 1214–1217.—1214, *Dasylechia atrox* Williston. 1215, *Laphria gibbosus* Linné. 1216, *Bombomima fulvithorax* Fabricius. 1217, *Andrenosoma atra* Linné.



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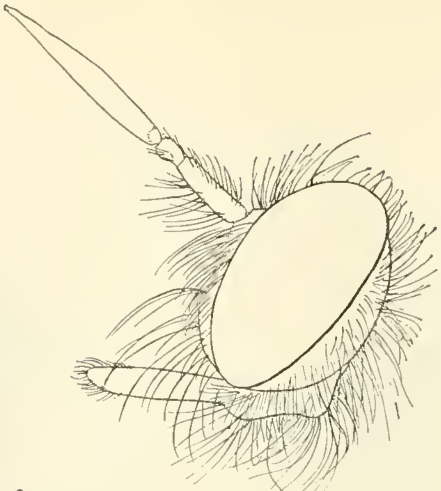

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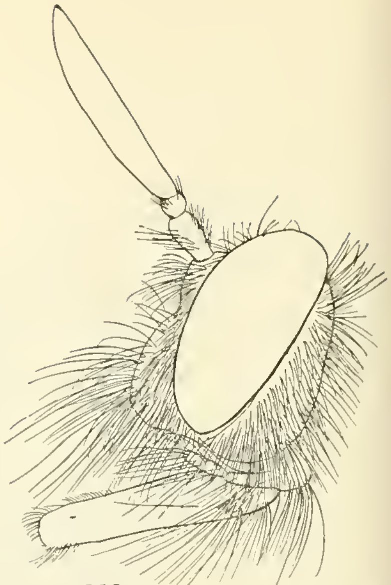

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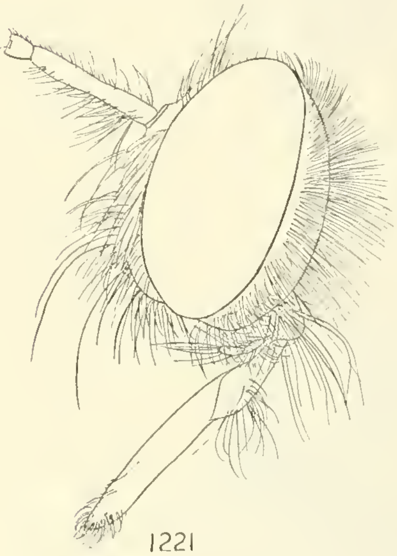

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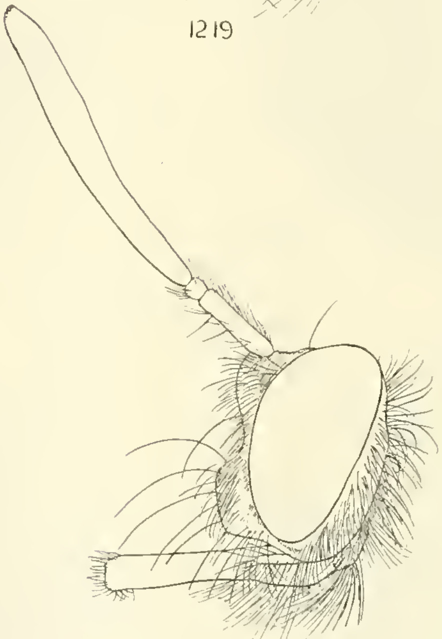

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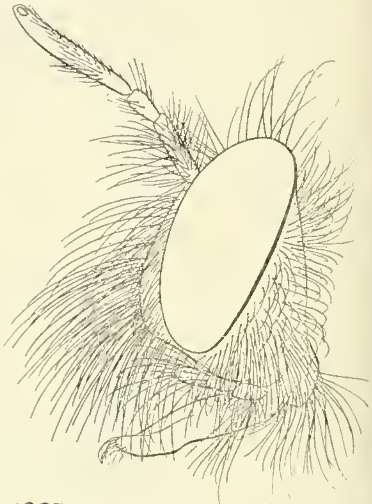

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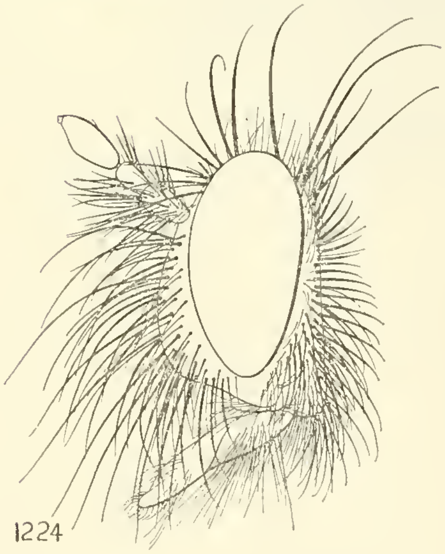

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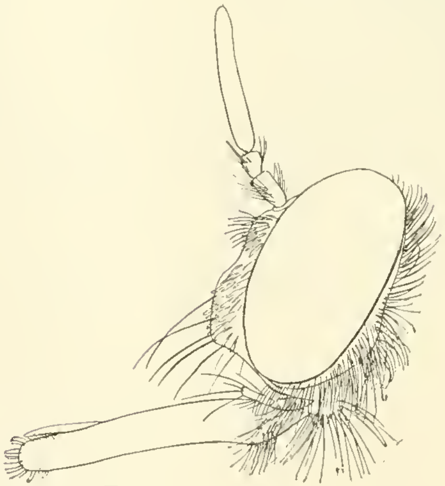

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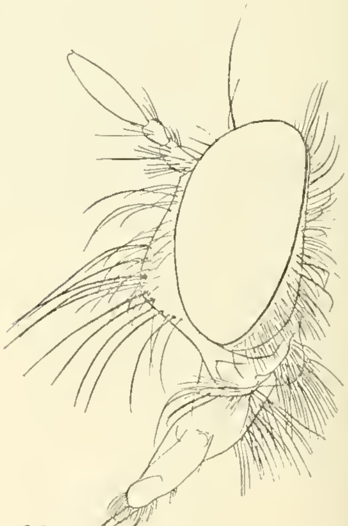

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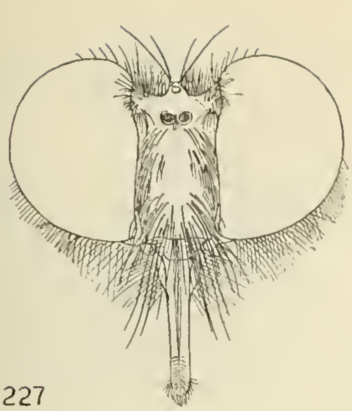

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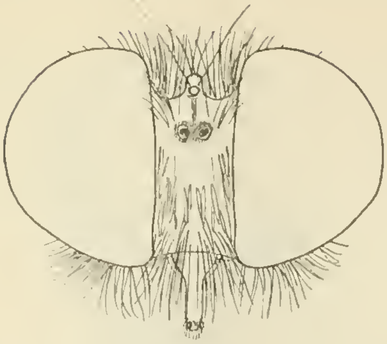

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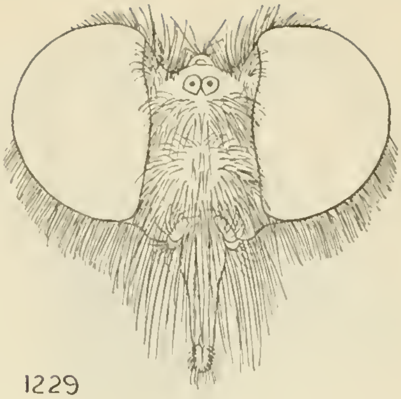

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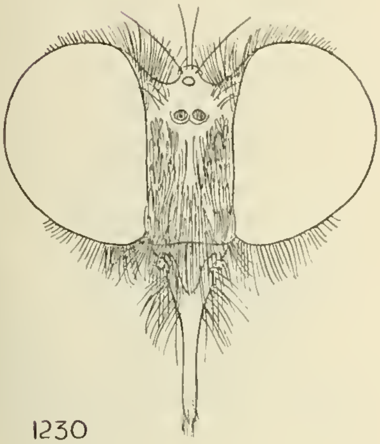

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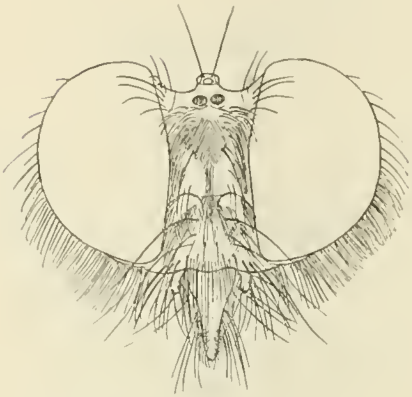

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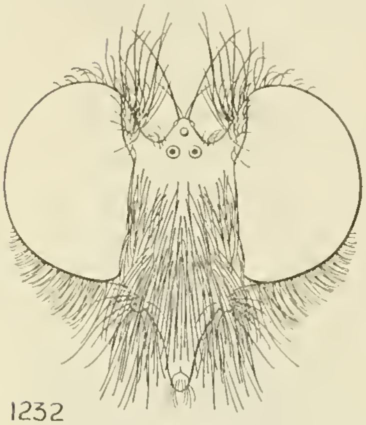

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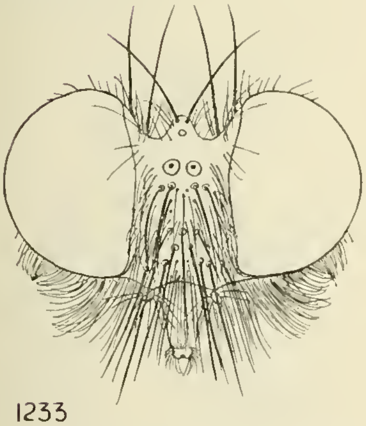

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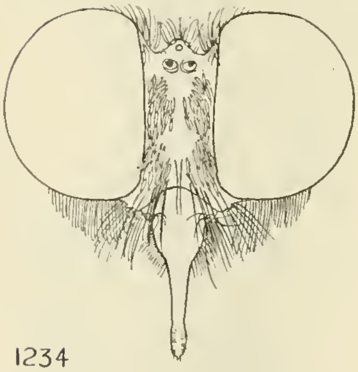

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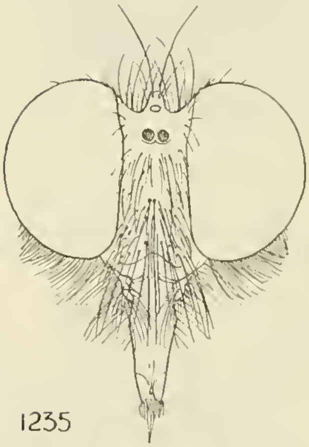

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Figures 1227–1235.—1227, *Storthyngomerus dymes* Walker. 1228, *Phellopteron farri*, new species. 1229, *Dassylina fulvithorax* Bromley. 1230, *Rhopalogaster longicornis* Wiedemann. 1231, *Rhopalogaster* sp. 1232, *Laxenecera albicincta* Loew. 1233, *Nusa leucophaea* Lynch Arribálzaga. 1234, *Pholidotus rubriventris* Hermann. 1235, *Orthogonis scapularis* Wiedemann.

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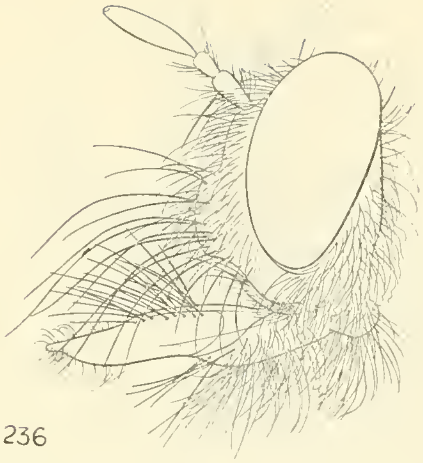
Figures 1218–1226.—1218, *Storthyngomerus dymes* Walker. 1219, *Phellopteron farri*, new species. 1220, *Dassylina fulvithorax* Bromley. 1221, *Rhopalogaster longicornis* Wiedemann. 1222, *Rhopalogaster* sp. 1223, *Laxenecera albicincta* Loew. 1224, *Nusa infumata* Loew. 1225, *Pholidotus rubriventris* Hermann. 1226, *Orthogonis scapularis* Wiedemann.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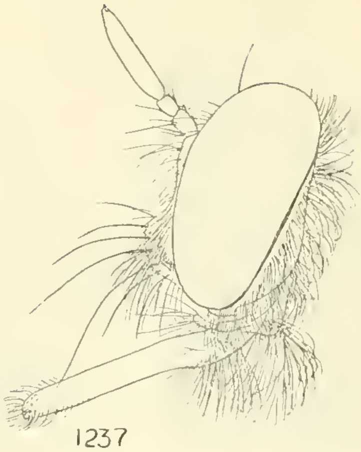
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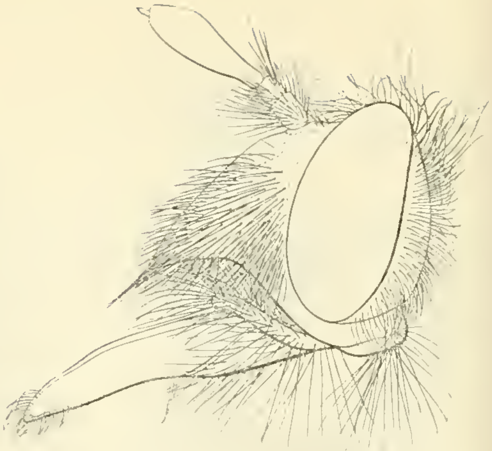
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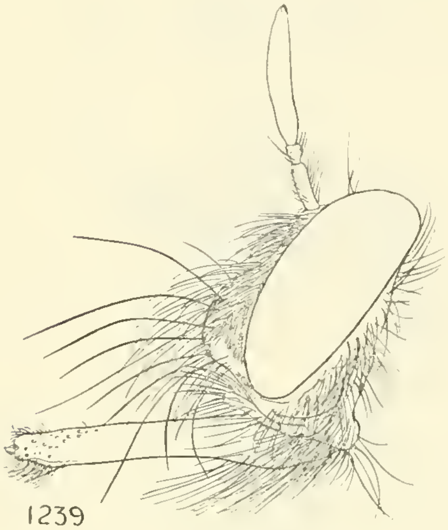
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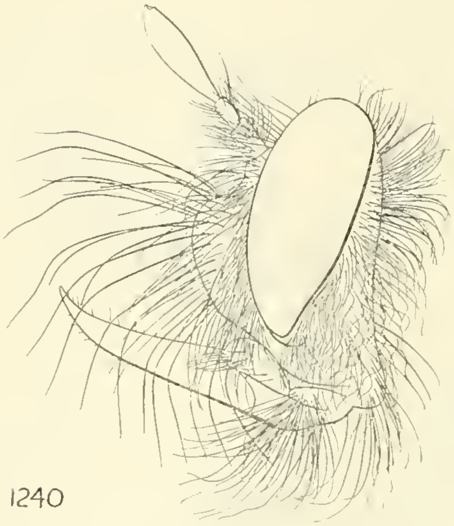
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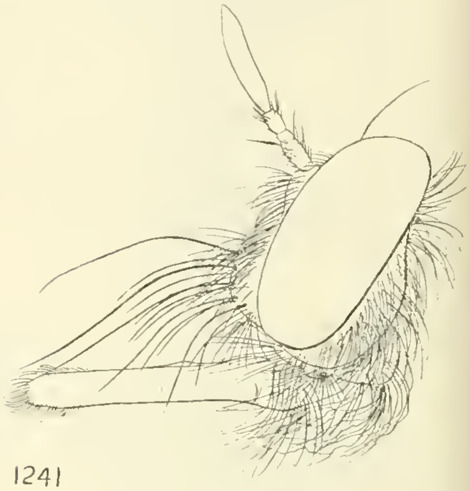
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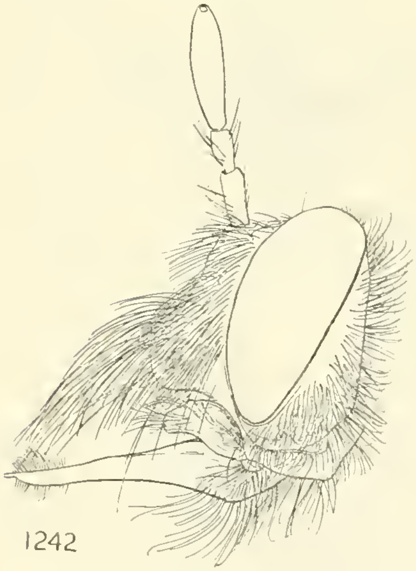
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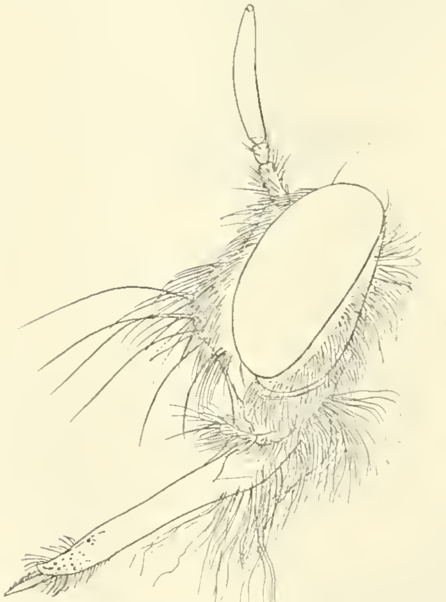
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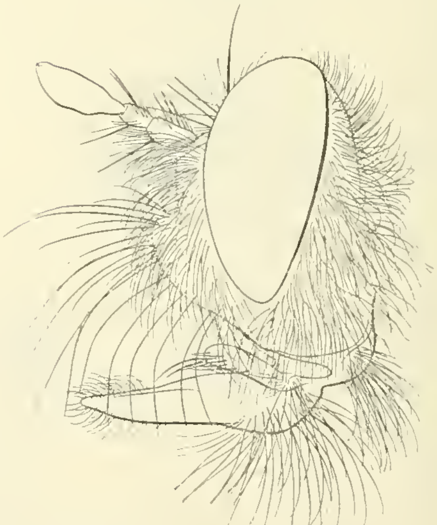
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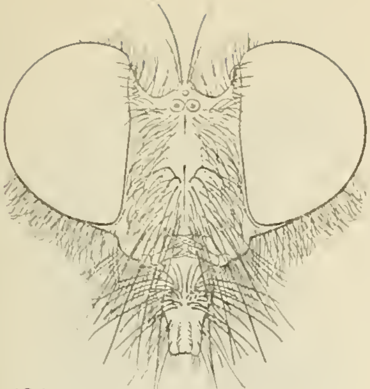
Figures 1236–1244.—1236, *Neophoneus servillei* Macquart. 1237, *Lampria clavipes* Fabricius. 1238, *Pronomopsis rubripes* Hermann. 1239, *Pagidolaphria horrida* Walker. 1240, *Pilica formidolosa*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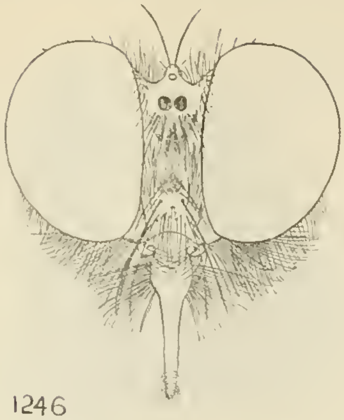
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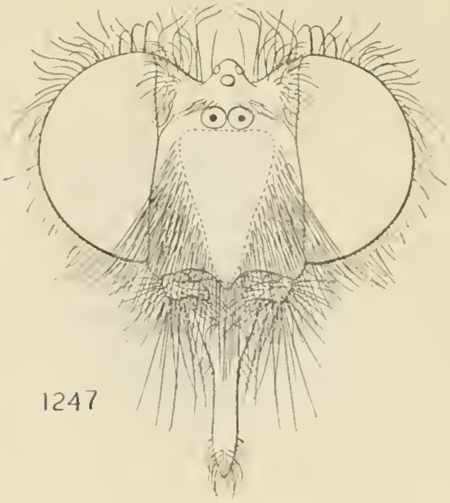
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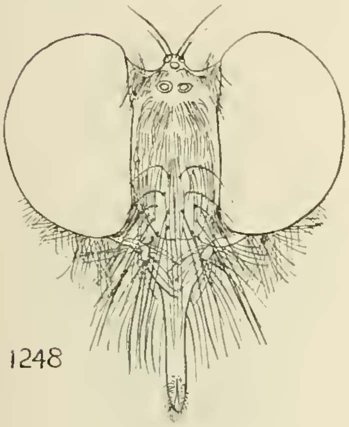
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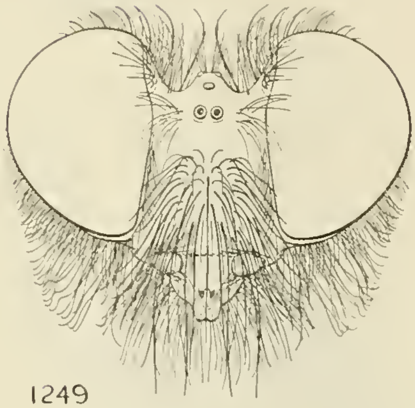
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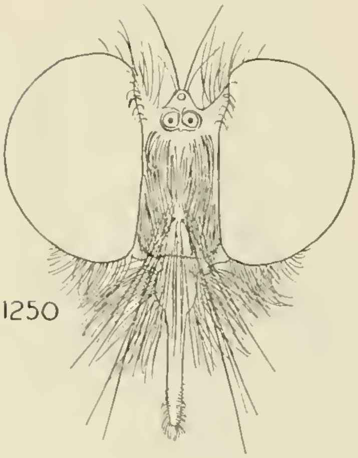
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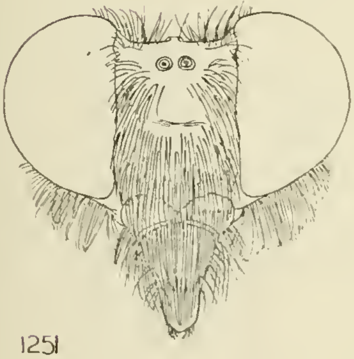
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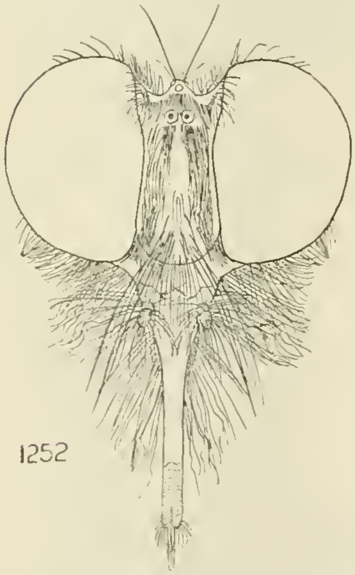
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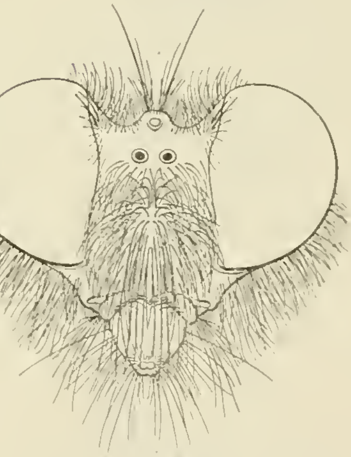
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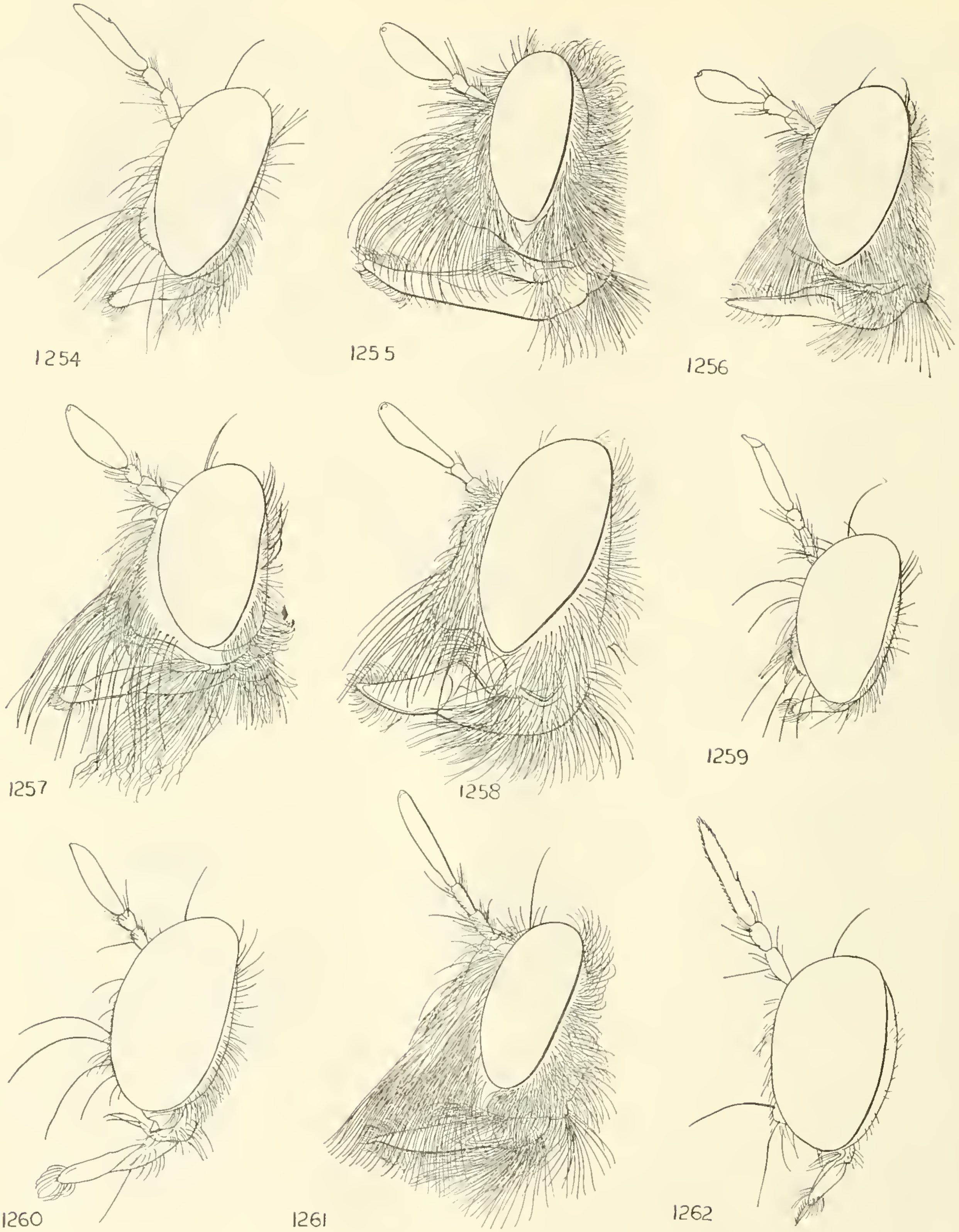
Walker. 1241, *Maira spectabilis* Guérin. 1242, *Systropalpus aurivulpes*, new species. 1243, *Choerades* sp. 1244, *Pogonosoma maroccanum* Fabricius.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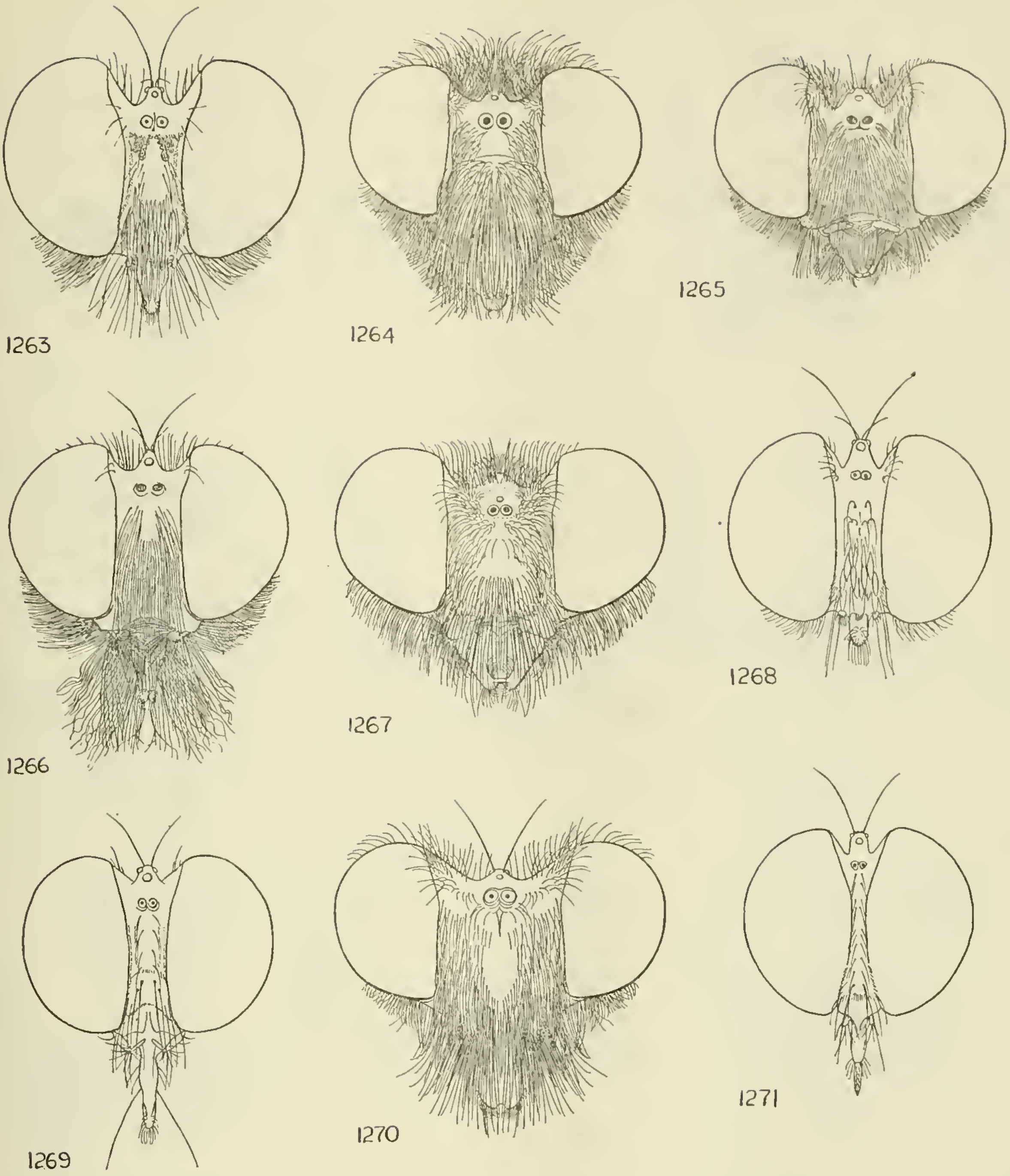
FIGURES 1254–1262.—1254, *Adelodus rufipes* Hermann. 1255, *Proagonistes athletes* Speiser. 1256, *Cerotainiops abdominalis* Brown. 1257, *Anisosis producta* Walker. 1258, *Hyperechia* sp. 1259, *Goneccalypsis lucida* Hermann. 1260, *Oidardis gibbosa* Hermann. 1261, *Dasyllis haemorrhoa* Wiedemann. 1262, *Clariola pulchra* Kertész.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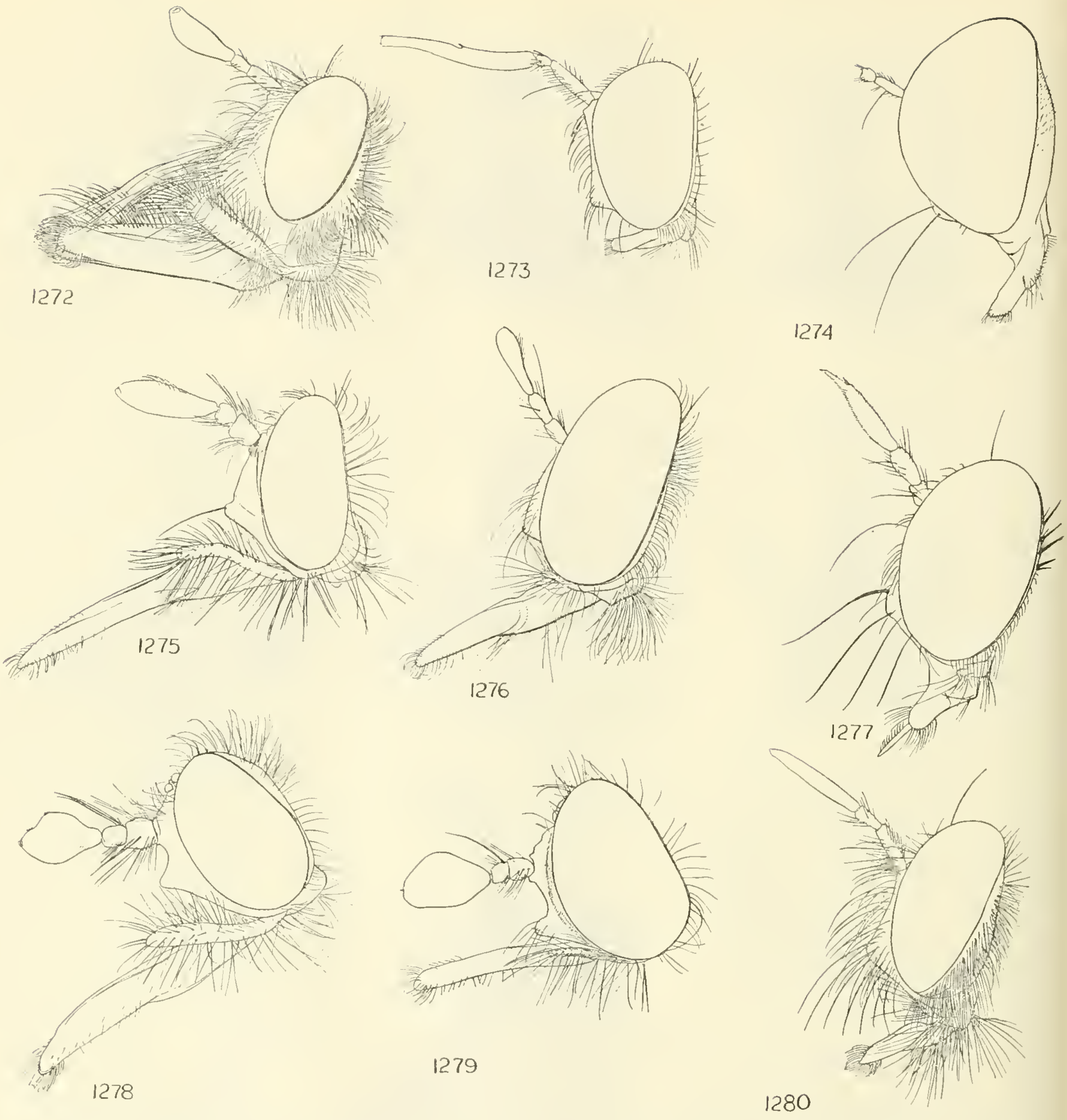
FIGURES 1263–1271.—1263, *Adelodus rufipes* Hermann. 1264, *Proagonistes athletes* Speiser. 1265, *Cerataíniops abdominalis* Brown. 1266, *Anisosis producta* Walker. 1267, *Hyperechia* sp. 1268, *Goneccalypsis lucida* Hermann. 1269, *Oidardis gibbosa* Hermann. 1270, *Dasyllis haemorrhoa* Wiedemann. 1271, *Clariola pulchra* Kertész.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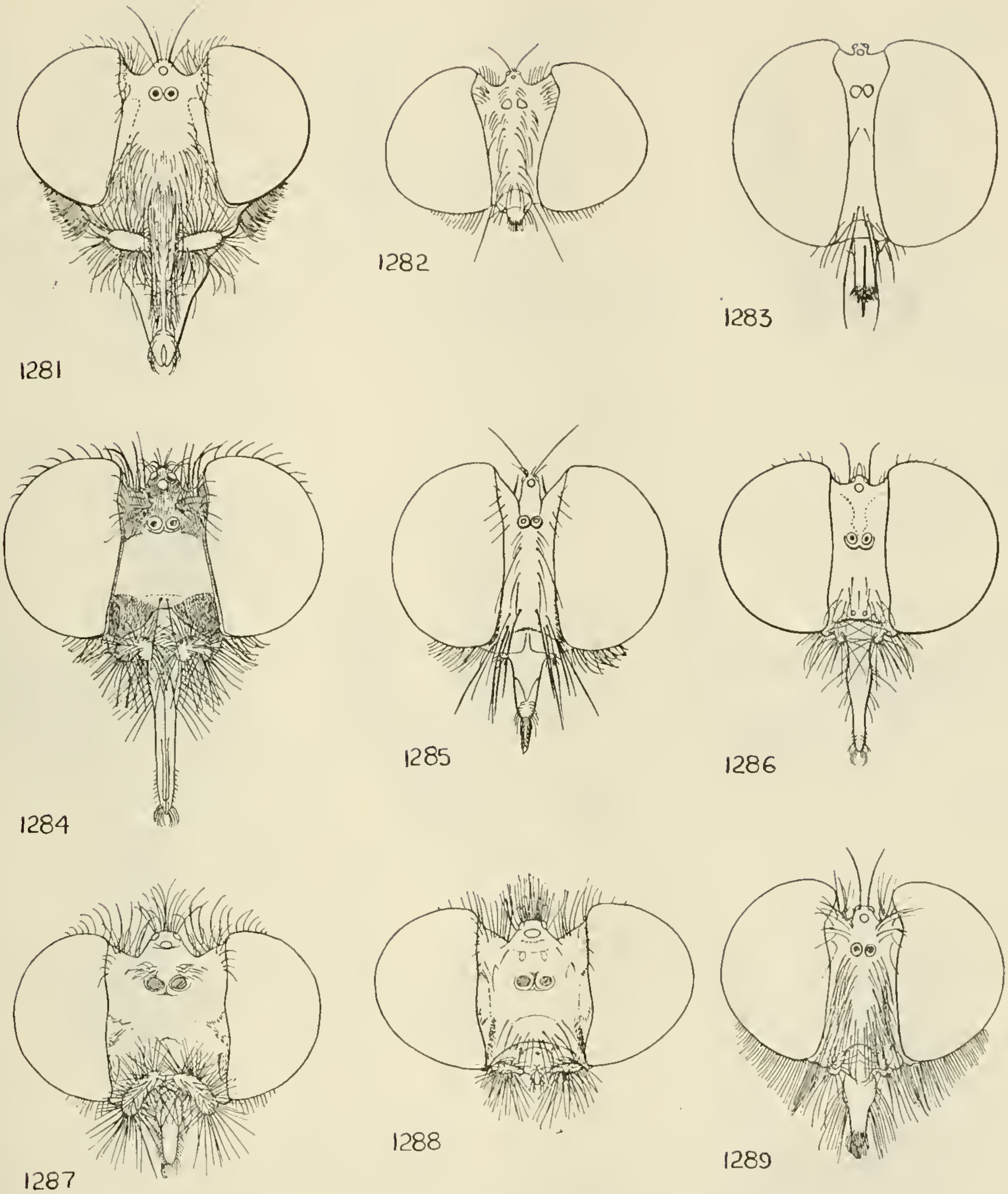
Figures 1272–1280.—1272, *Lamyra gulo* Loew. 1273, *Hodites punctissima*, new species. 1274, *Chymedax delicatulus* Hull. 1275, *Megapoda labiata* Fabricius. 1276, *Senobasis analis* Macquart. 1277, *Opeatocerus purpurata* Westwood. 1278, *Doryclus distendens* Wiedemann. 1279, *Pseudorus piceus* Walker. 1280, *Paratractia dasypus* Wiedemann.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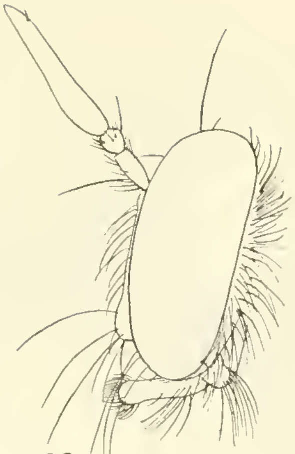
FIGURES 1281–1289.—1281, *Lamyra gulo* Loew. 1282, *Hodites punctissima*, new species. 1283, *Chymedax delicatulus* Hull. 1284, *Megapoda labiata* Fabricius. 1285, *Opeatocerus purpurata* Westwood. 1286, *Senobasis analis* Macquart. 1287, *Doryclus distendens* Wiedemann. 1288, *Pseudorus piceus* Walker. 1289, *Paratractia dasypus* Wiedemann.



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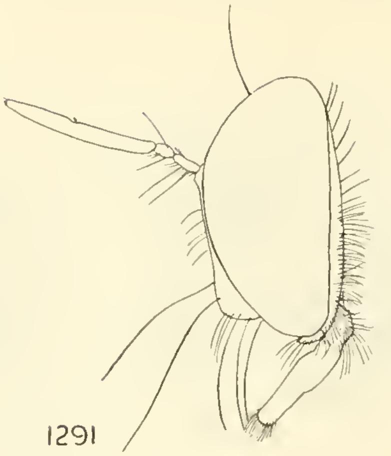

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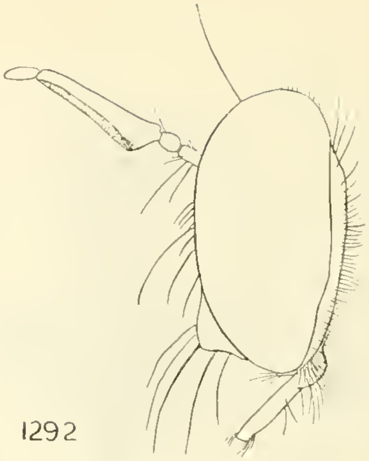

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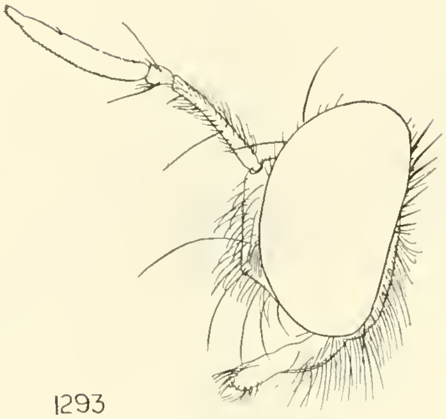

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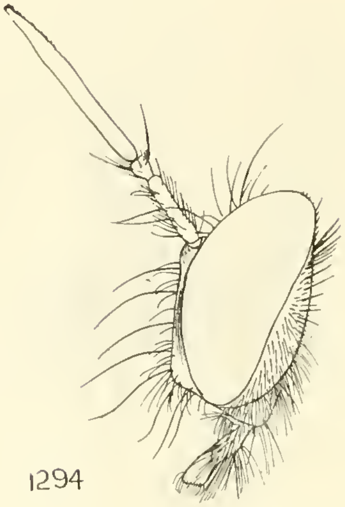

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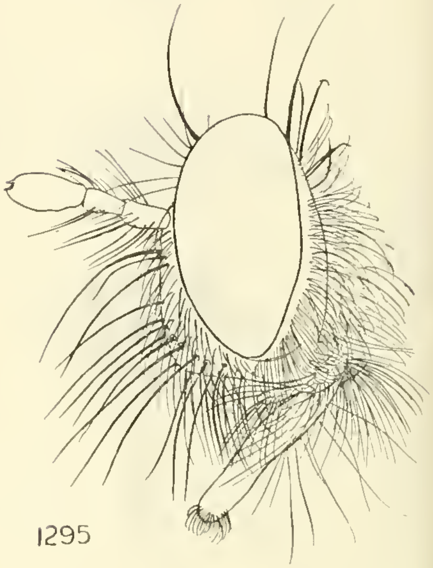

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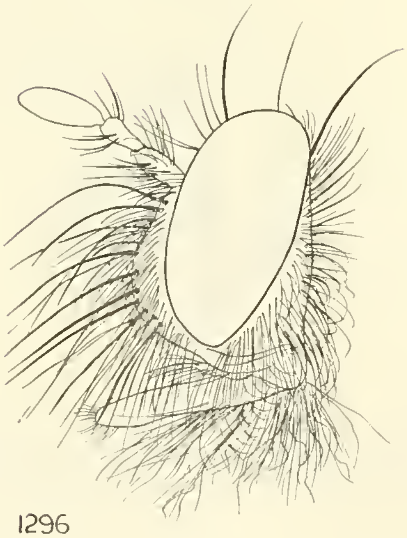

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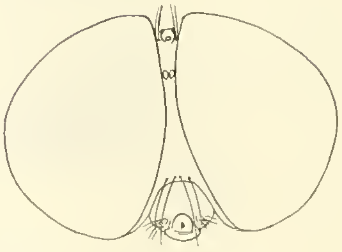

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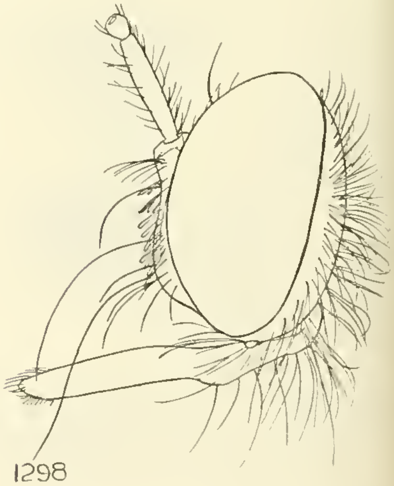

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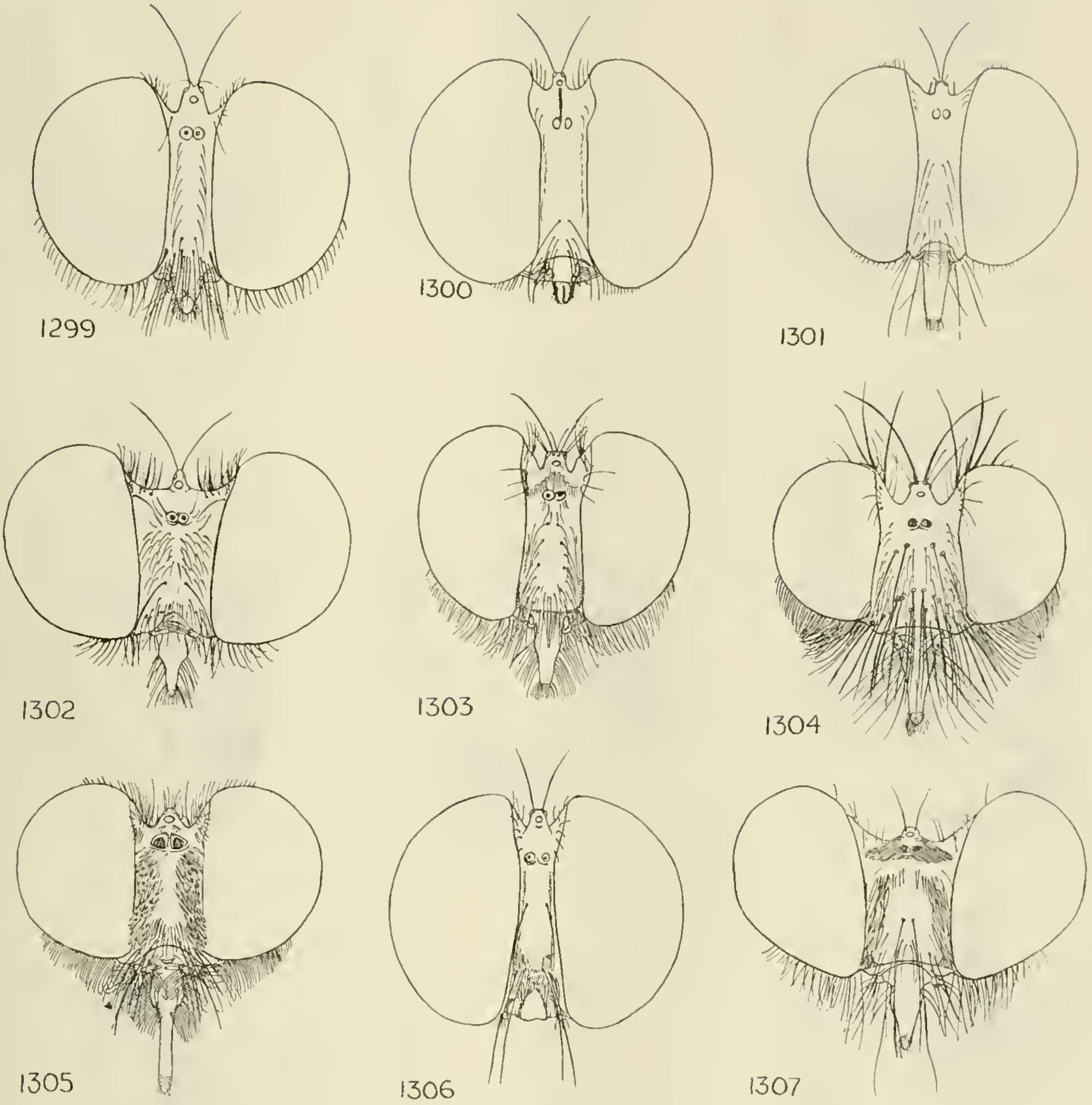
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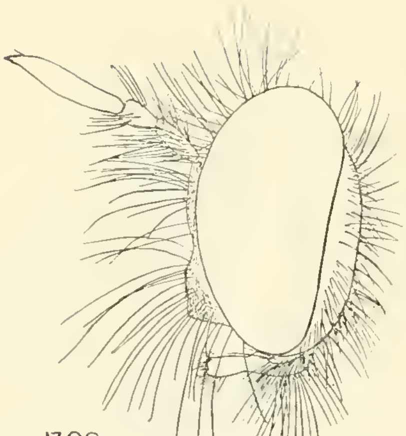
FIGURES 1299–1307.—1299, *Eumecosoma pleuritica* Wiedemann. 1300, *Lycosimyia carrerae* Hull. 1301, *Sphagolestes nigrum*, new species. 1302, *Protichisma albibarbis* Curran. 1303, *Bathropsis peruviana* Hermann. 1304, *Nusa aequalis* Walker. 1305, *Pholidotus anceps* Hermann. 1306, *Clariola* sp. 1307, *Rhopalogaster* sp.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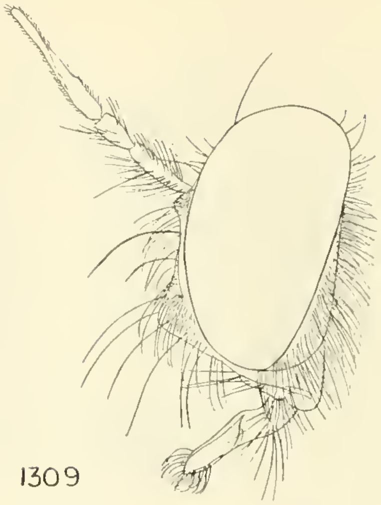
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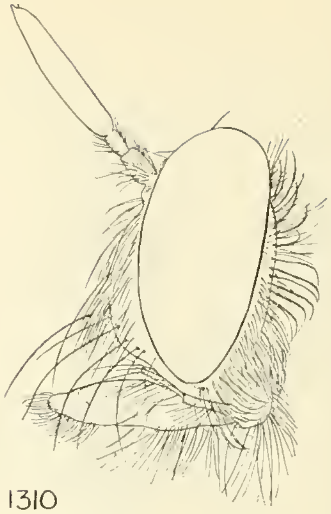
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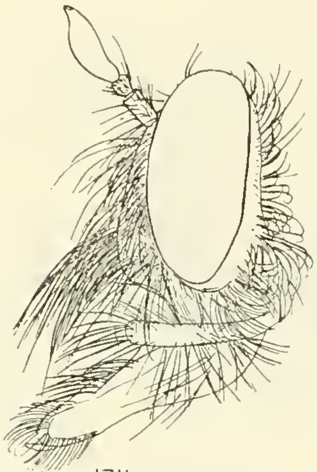
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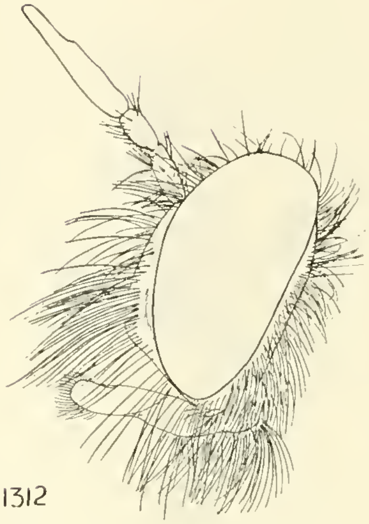
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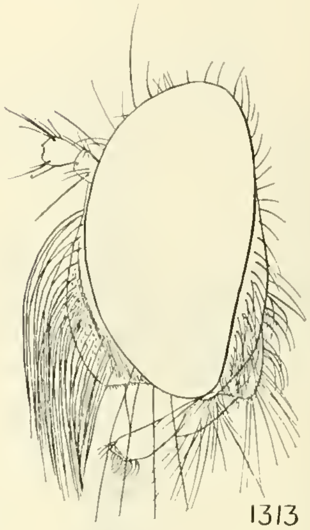
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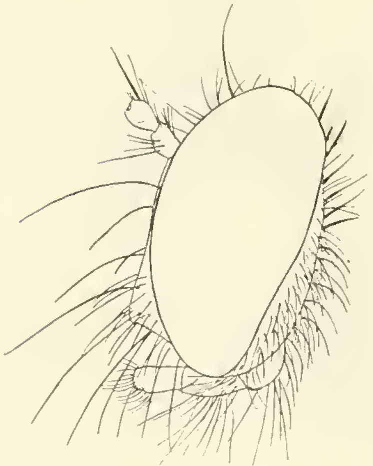
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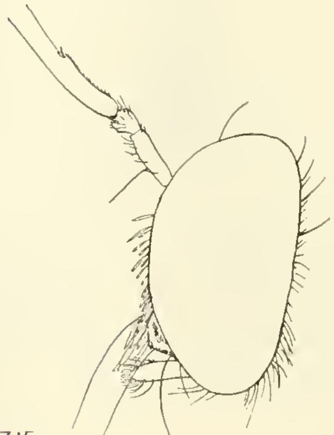
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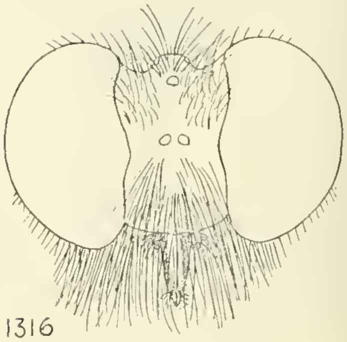
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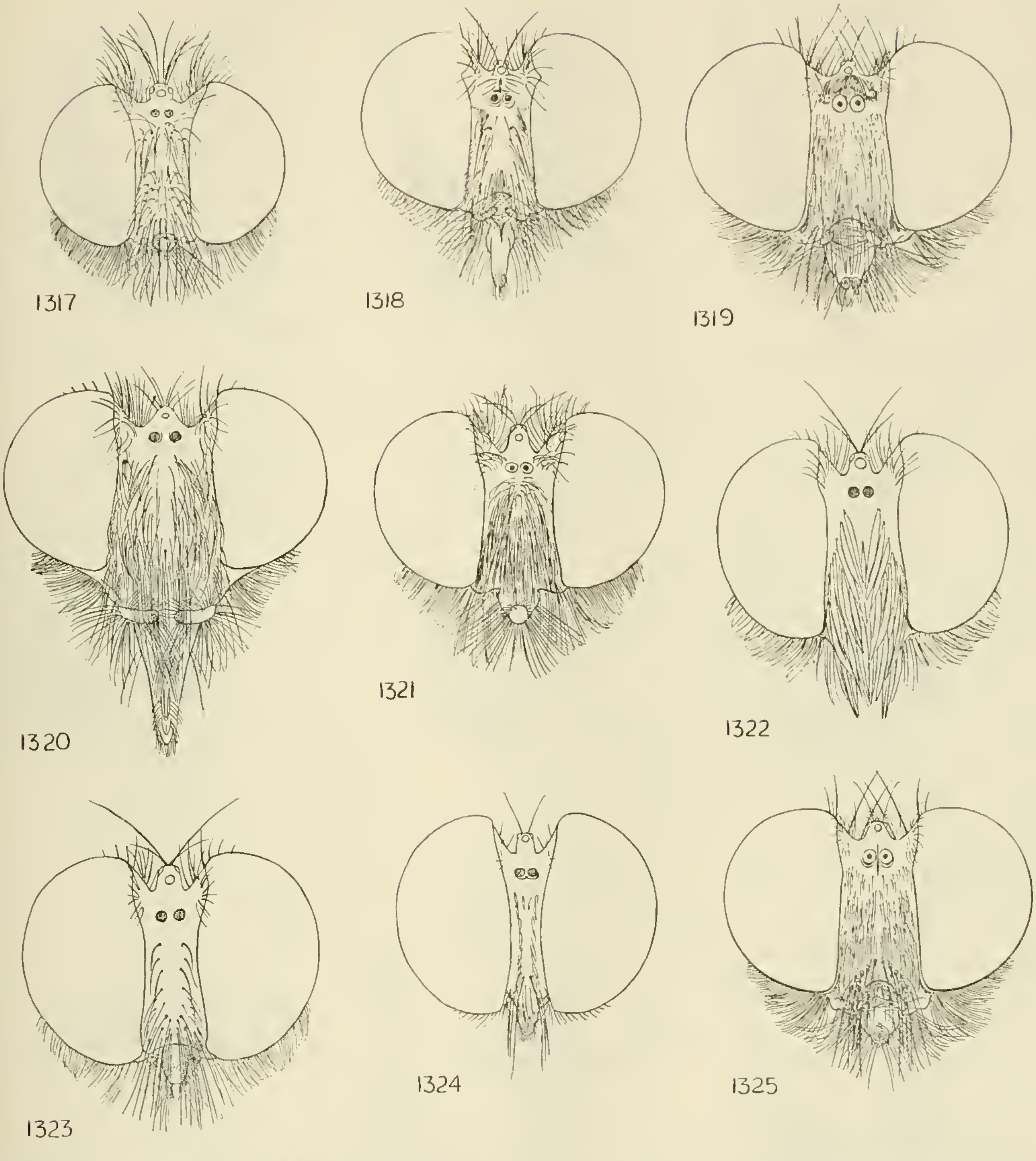
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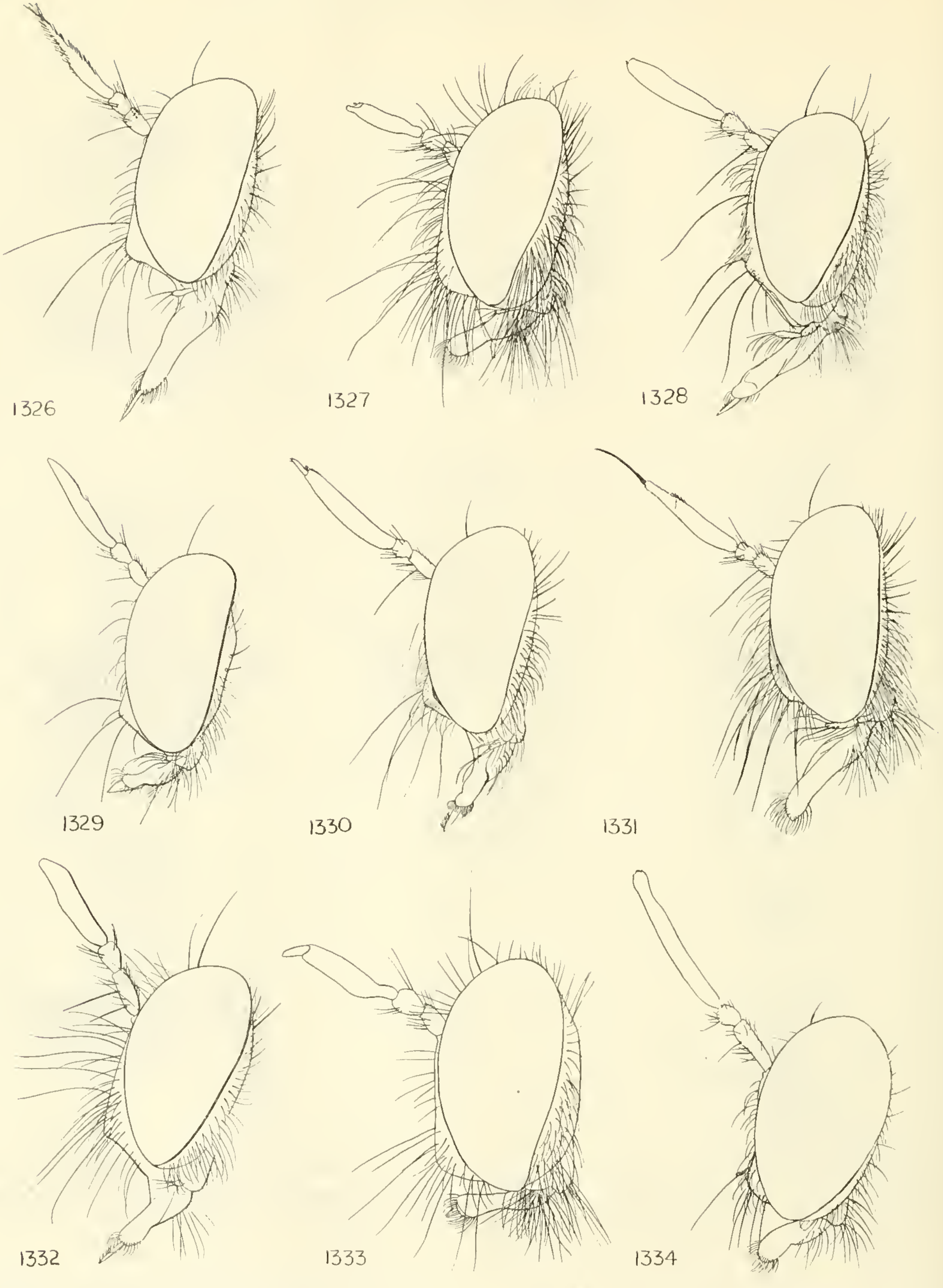
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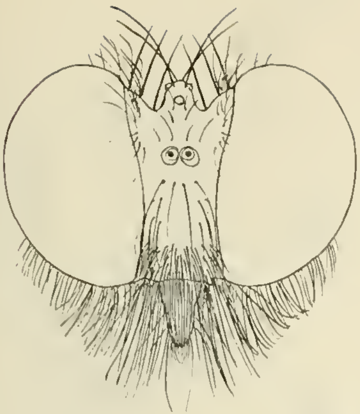
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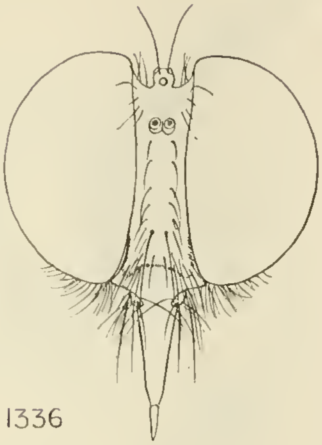
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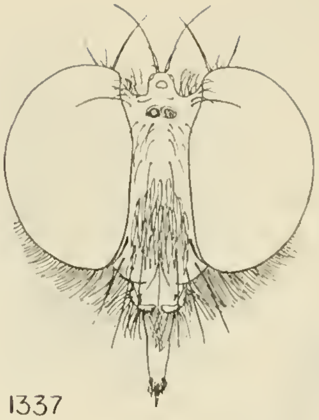
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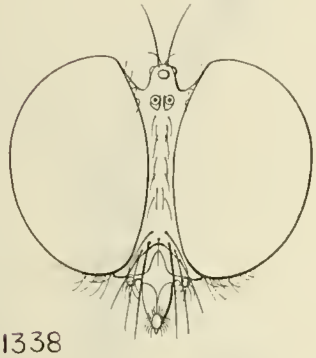
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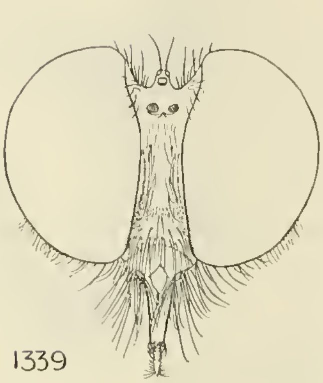
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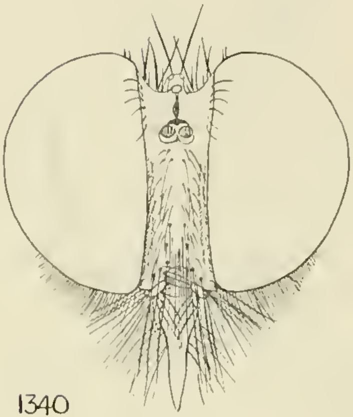
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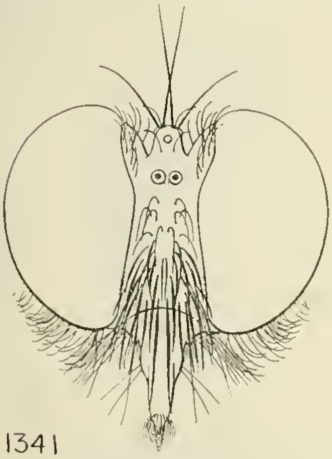
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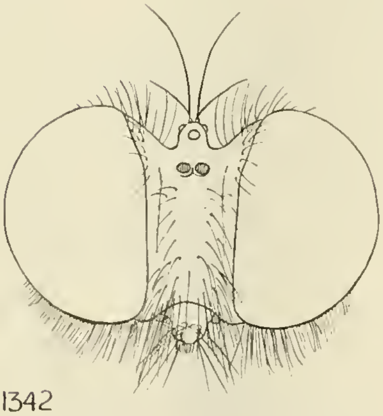
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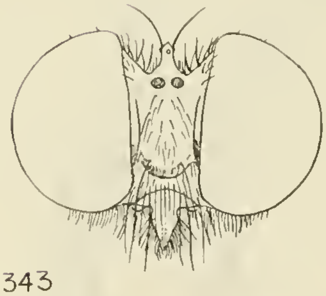
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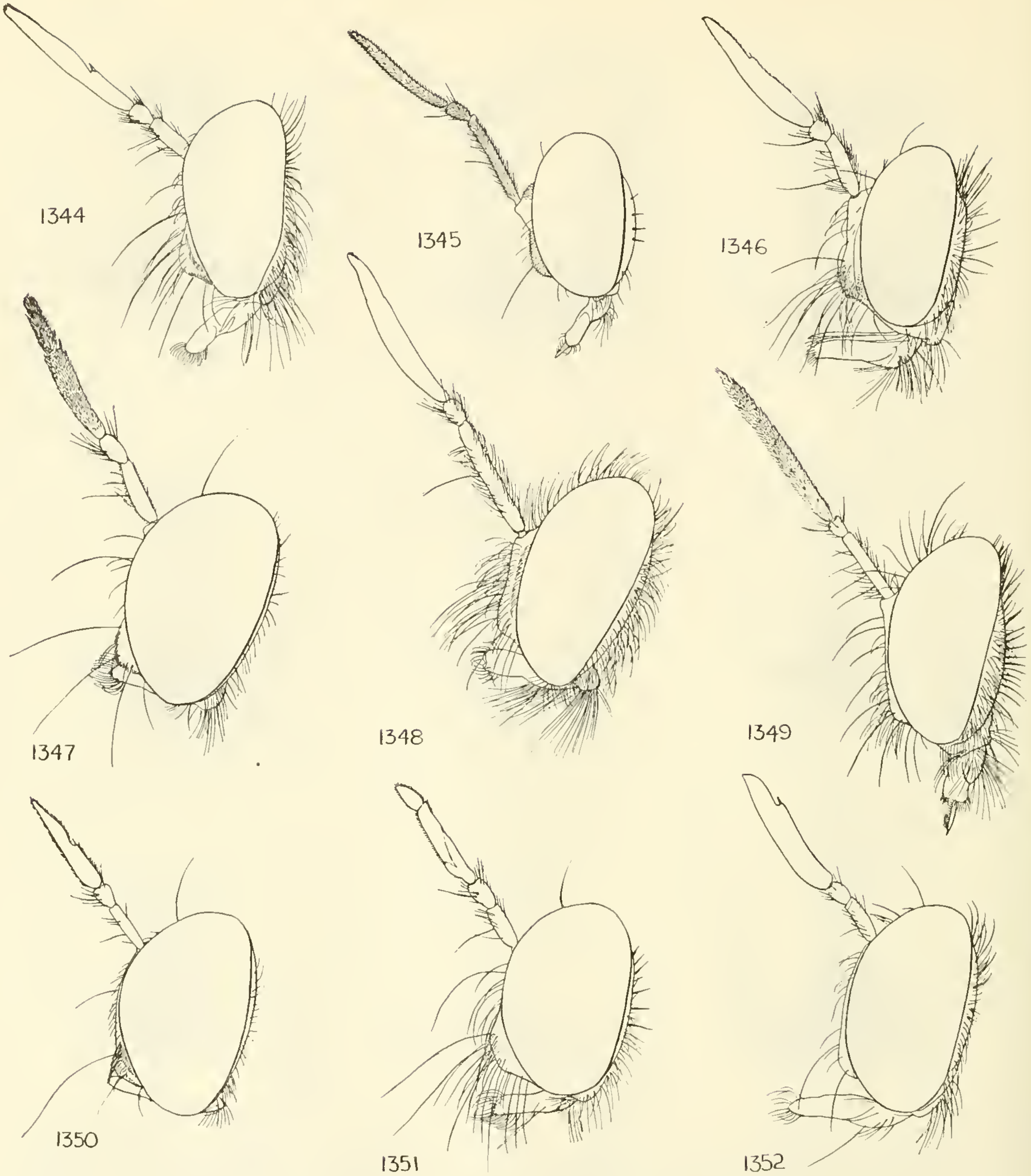
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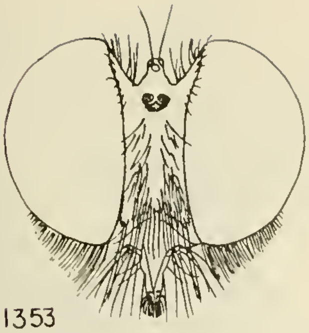

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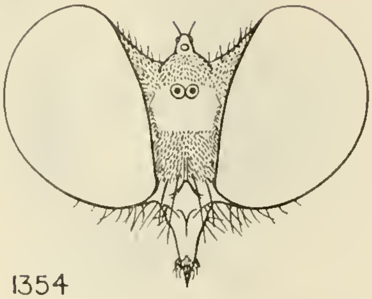

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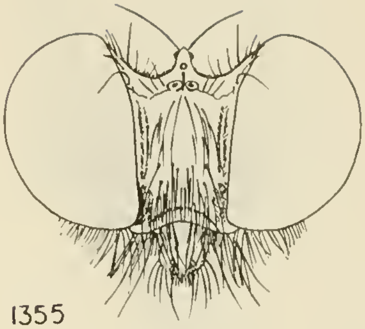

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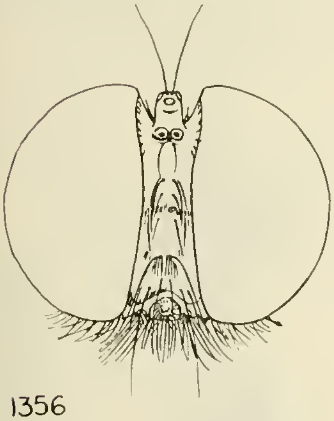

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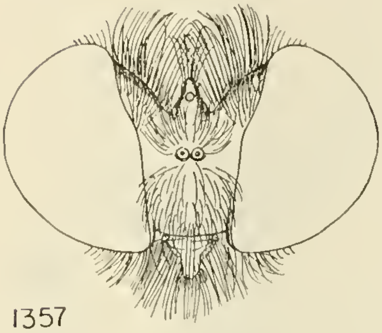

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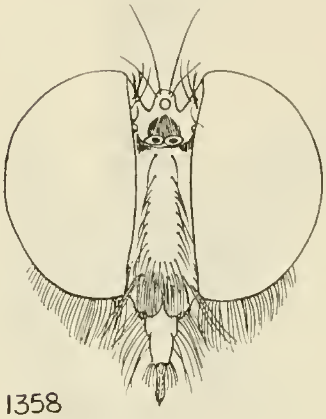

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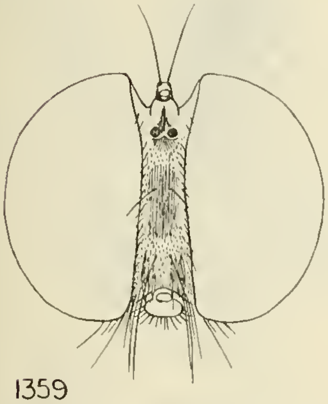

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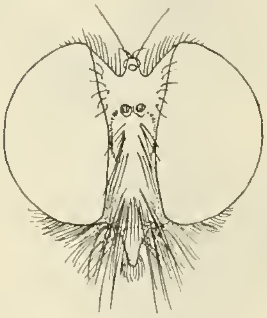

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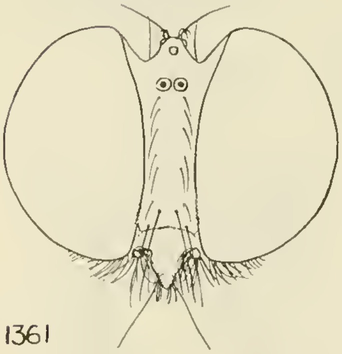

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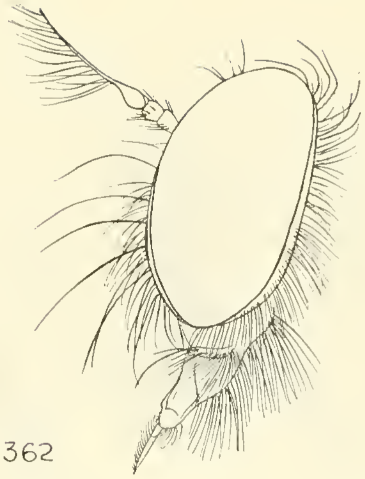
Figures 1353–1361.—1353, *Epaphroditus* sp. 1354, *Cyphotomyia lynchii* Williston. 1355, *Protichisma longimanus* Hermann. 1356, *Dichaetothyrea punctulosa* de Meijere, type. 1357, *Cerotainia macrocera* Wiedemann. 1358, *Bathropsis basalis* Curran. 1359, *Opocapsis dioctrioides* Walker. 1360, *Löwinella virescens* Loew. 1361, *Othoniomyia triangularis* Hermann.



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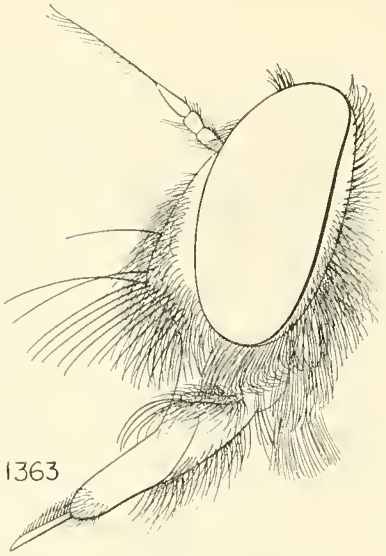

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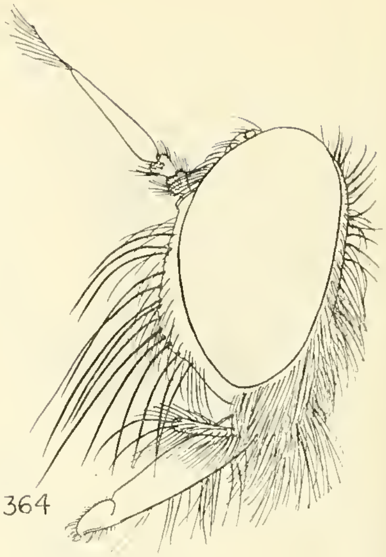

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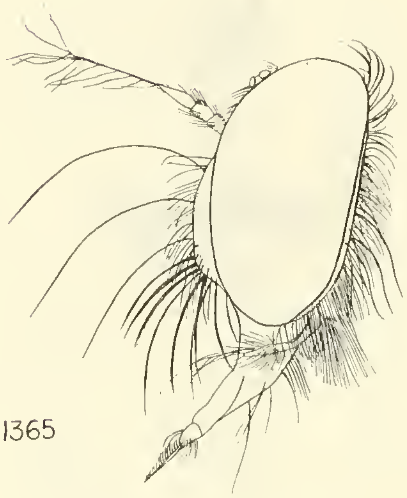

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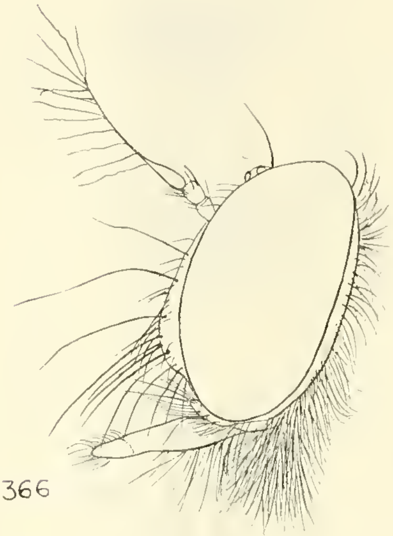

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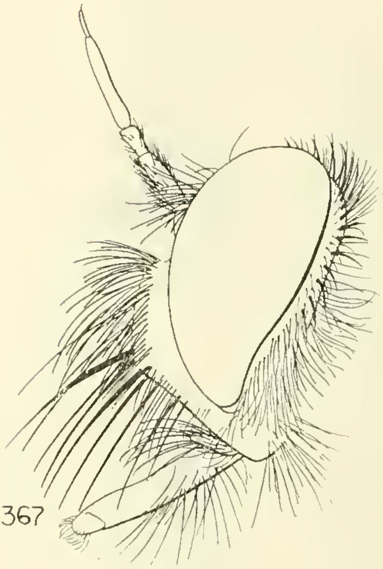

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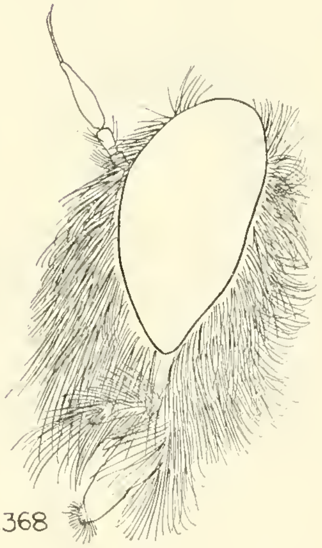

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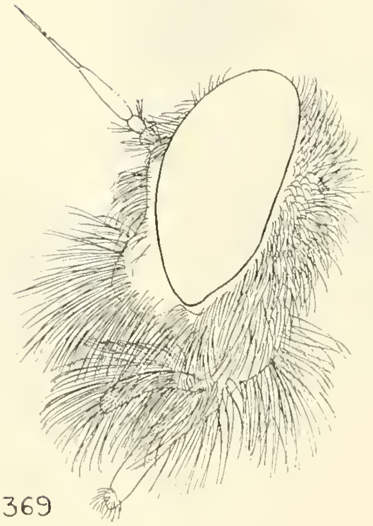

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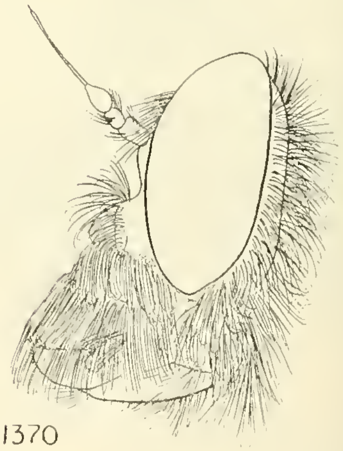

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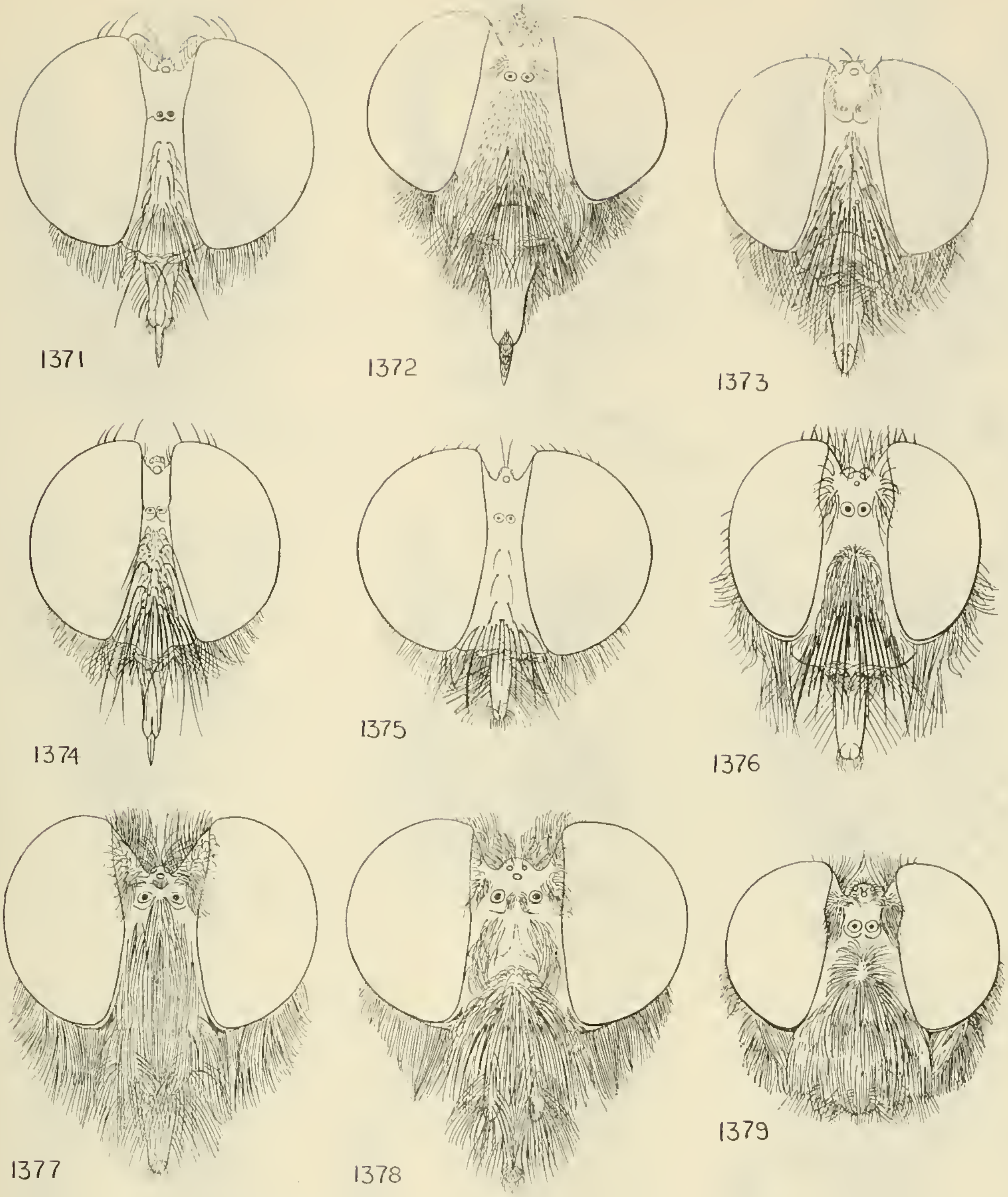

FIGURES 1371–1379.—1371, *Emphysomera conopsoides* Wiedemann. 1372, *Cophinopoda chinensis* Fabricius. 1373, *Michotamia aurata* Fabricius. 1374, *Ommatius pinguis* Wulp. 1375, *Ommatius marginellus* Fabricius. 1376, *Apotinocerus brevistylatus* Wulp. 1377, *Megaphorus guildiana* Williston. 1378, *Mallophora bromleyi* Curran. 1379, *Eccritosia amphinome* Walker.

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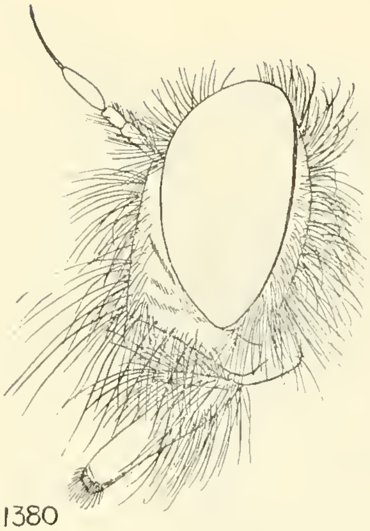
FIGURES 1362–1370.—1362, *Emphysomera conopsoides* Wiedemann. 1363, *Cophinopoda chinensis* Fabricius. 1364, *Michotamia aurata* Fabricius. 1365, *Ommatius pinguis* Wulp. 1366, *Ommatius marginellus* Fabricius. 1367, *Apotinocerus brevistylatus* Wulp. 1368, *Megaphorus guildiana* Williston. 1369, *Mallophora bromleyi* Curran. 1370, *Eccritosia amphinome* Walker.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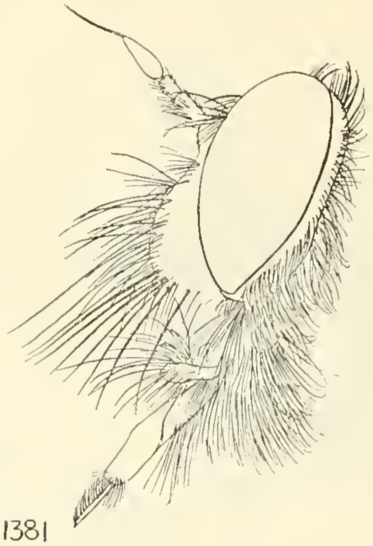
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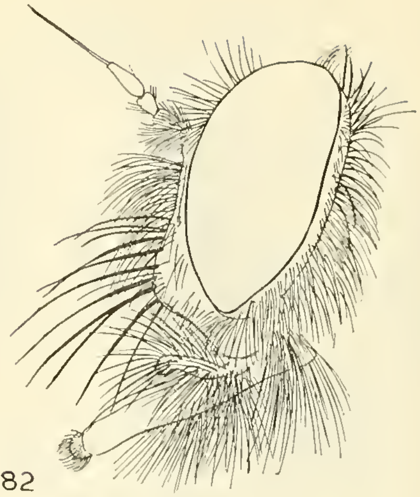
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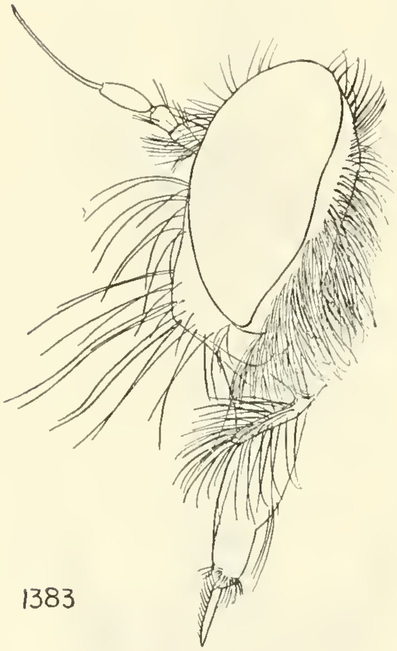
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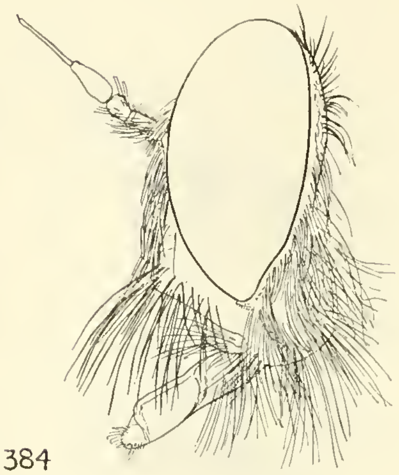
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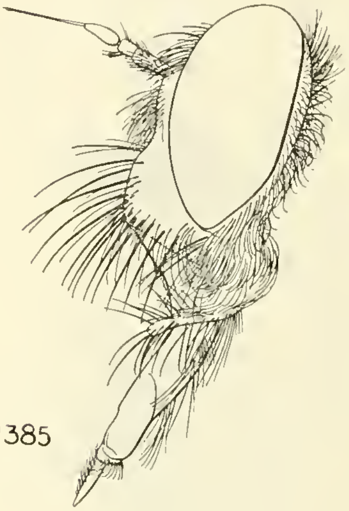
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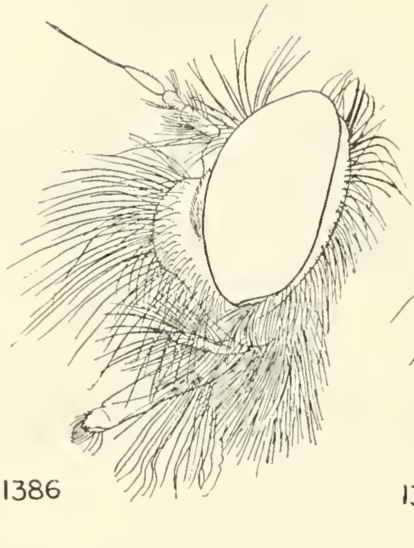
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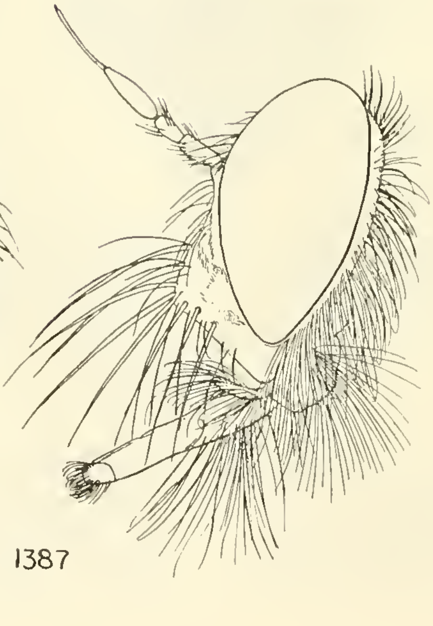
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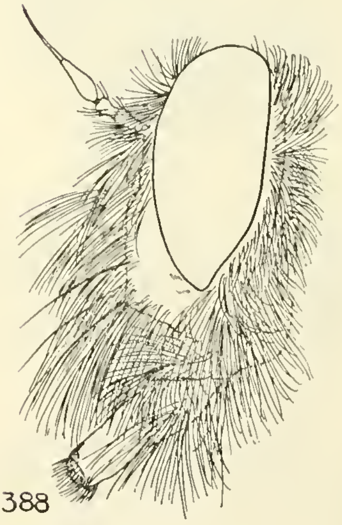
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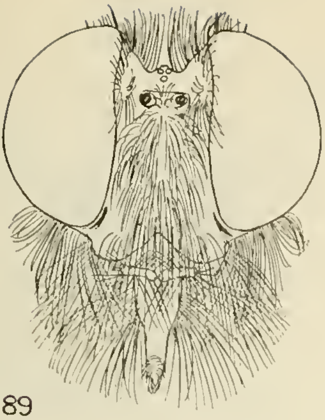

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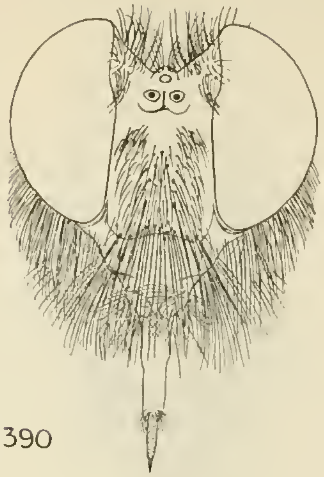

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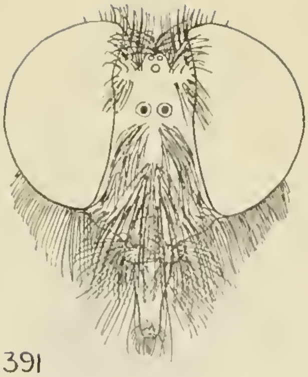

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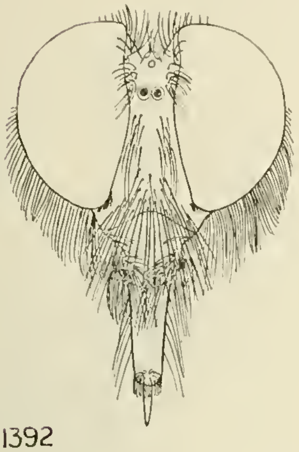

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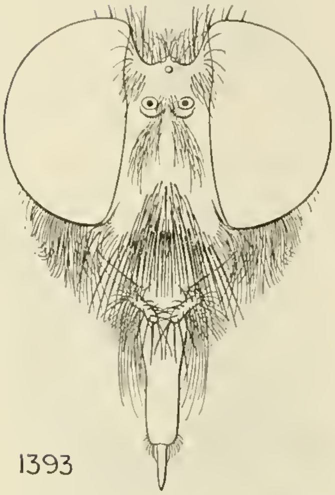

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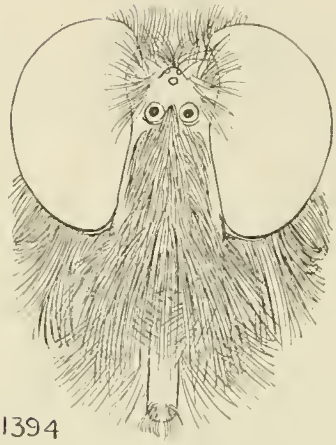

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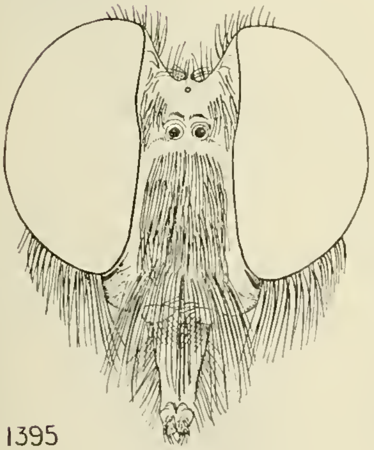

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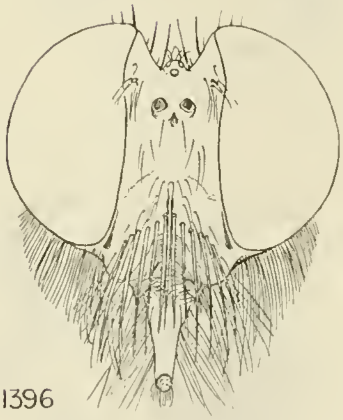

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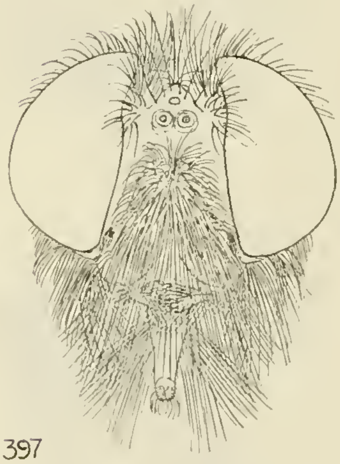

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Figures 1389–1397.—1389, *Promachus* (*Enagaedium*) *poetinus* Walker. 1390, *Nerax interruptus* Macquart. 1391, *Promachus* (*Trypanoides*) *yerburiensis* Ricardo. 1392, *Promachina trapezoidalis* Bellardi. 1393, *Promachus maculatus* Fabricius. 1394, *Promachus leoninus* Loew. 1395, *Apoclea algira* Linné. 1396, *Philodicus fraternus* Wiedemann. 1397, *Porasilus barbiellinii* Curran.

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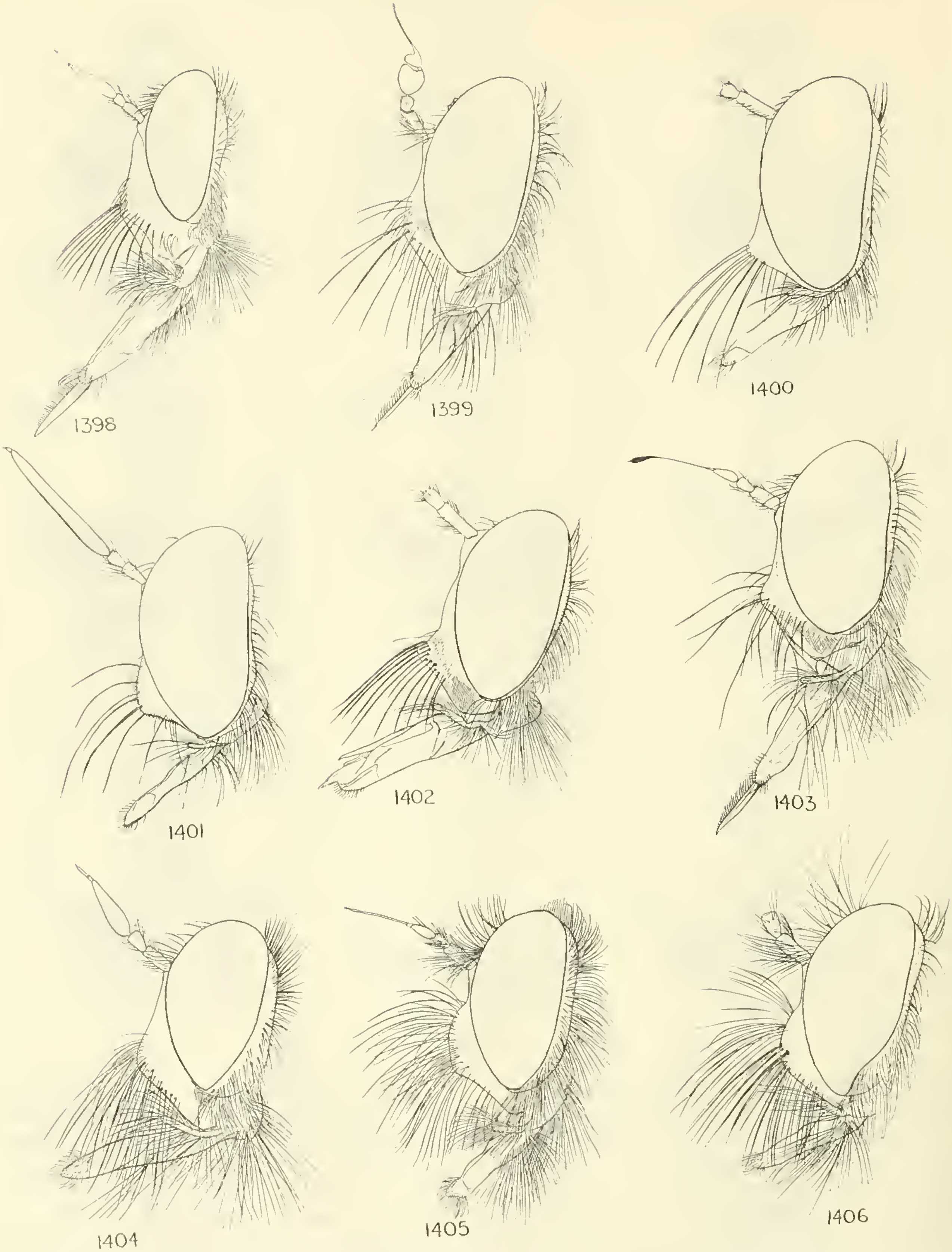
Figures 1380–1388.—1380, *Promachus* (*Enagaedium*) *poetinus* Walker. 1381, *Nerax interruptus* Macquart. 1382, *Promachus* (*Trypanoides*) *yerburiensis* Ricardo. 1383, *Promachina trapezoidalis* Bellardi. 1384, *Apoclea algira* Linné. 1385, *Promachus maculatus* Fabricius. 1386, *Porasilus barbiellinii* Curran. 1387, *Philodicus fraternus* Wiedemann. 1388, *Promachus leoninus* Loew.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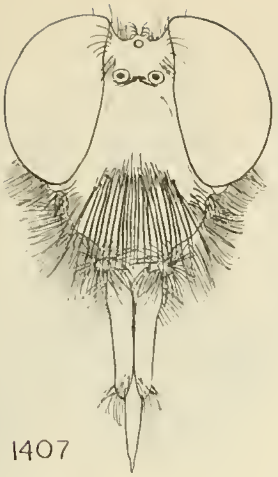
Figures 1398–1406.—1398, *Blepharotes splendidissimus* Wiedemann. 1399, *Cerozodus nodicornis* Wiedemann. 1400, *Leinendera rubra* Carrera. 1401, *Glaphyropyga himantocera* Wiedemann. 1402,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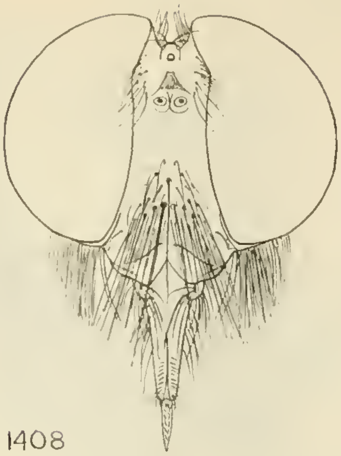
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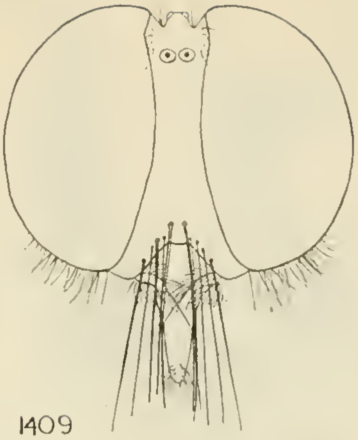
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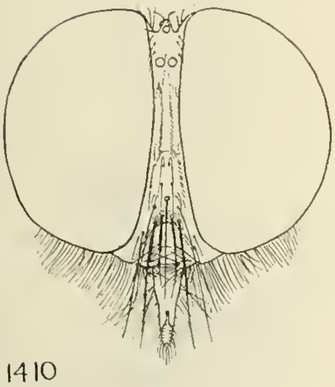
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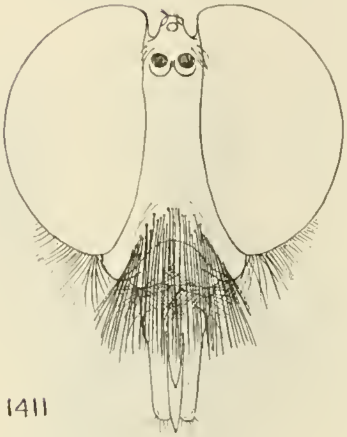
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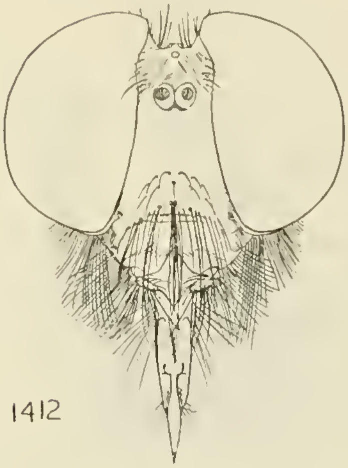
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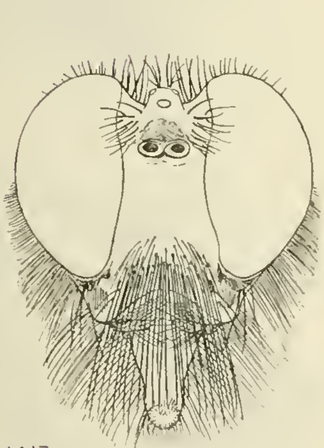
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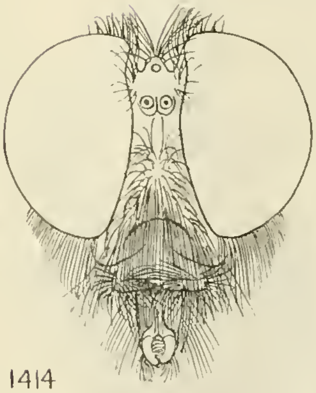
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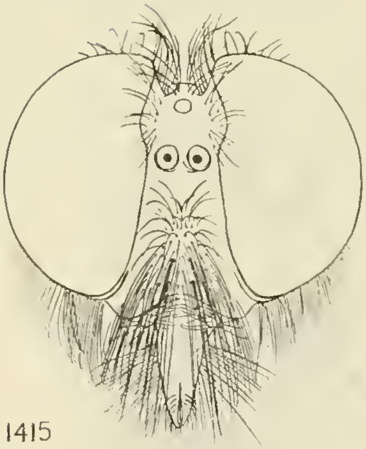
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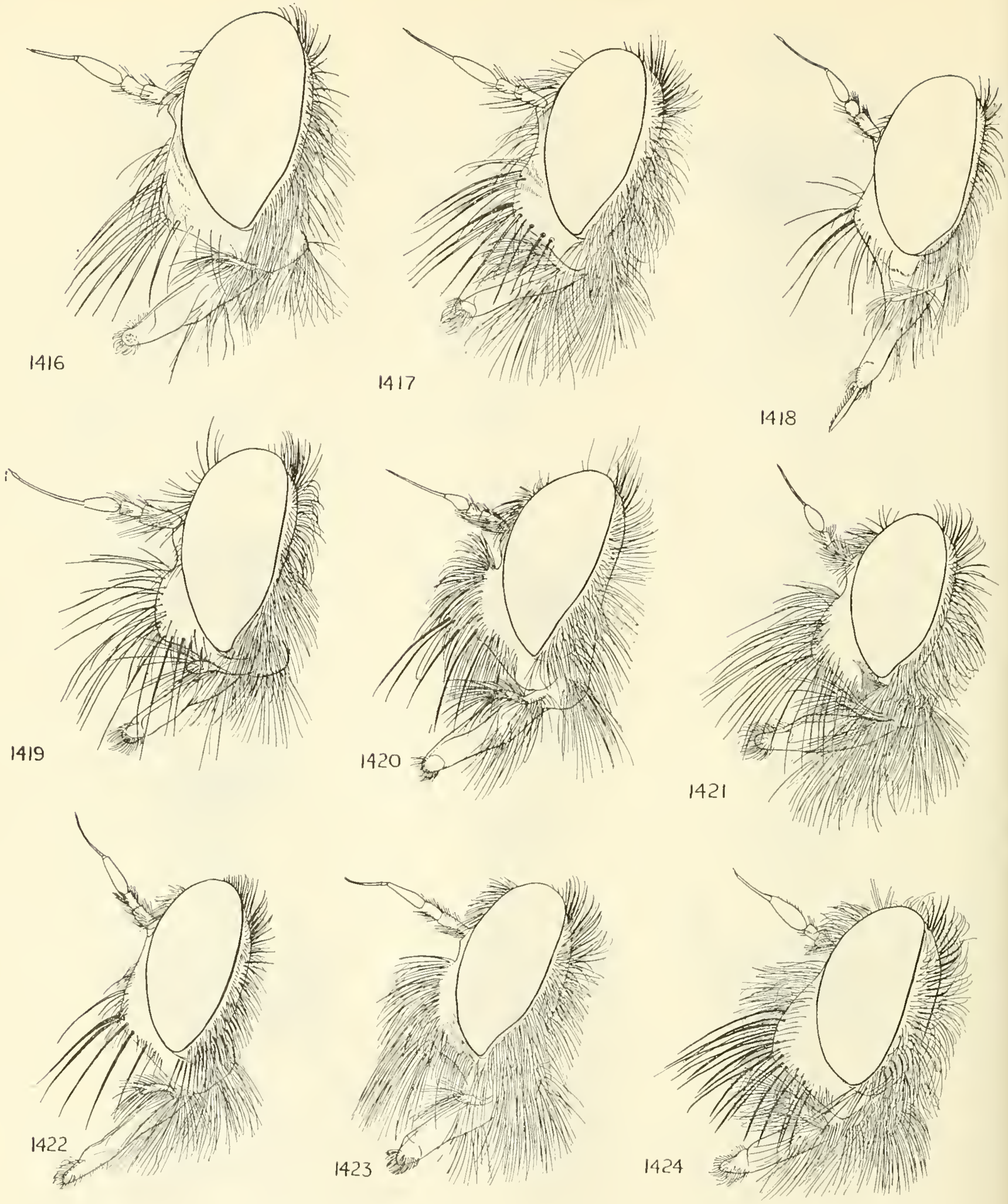
FIGURES 1407–1415.—1407, *Blepharotes splendidissimus* Wiedemann. 1408, *Cerozodus nodicornis* Wiedemann. 1409, *Leinendera rubra* Carrera. 1410, *Glaphyropyga himantocera* Wiedemann. 1411, *Lycomya germainii* Bigot. 1412, *Lecania genitalis* Bromley. 1413, *Chilesus geminatus* Bromley. 1414, *Nyssomyia ochracea*, new species. 1415, *Regasilus strigaria* Curran, male.

Lycomya germainii Bigot. 1403, *Lecania genitalis* Bromley. 1404, *Chilesus geminatus* Bromley. 1405, *Nyssomyia ochracea*, new species. 1406, *Regasilus strigaria* Curran, male.



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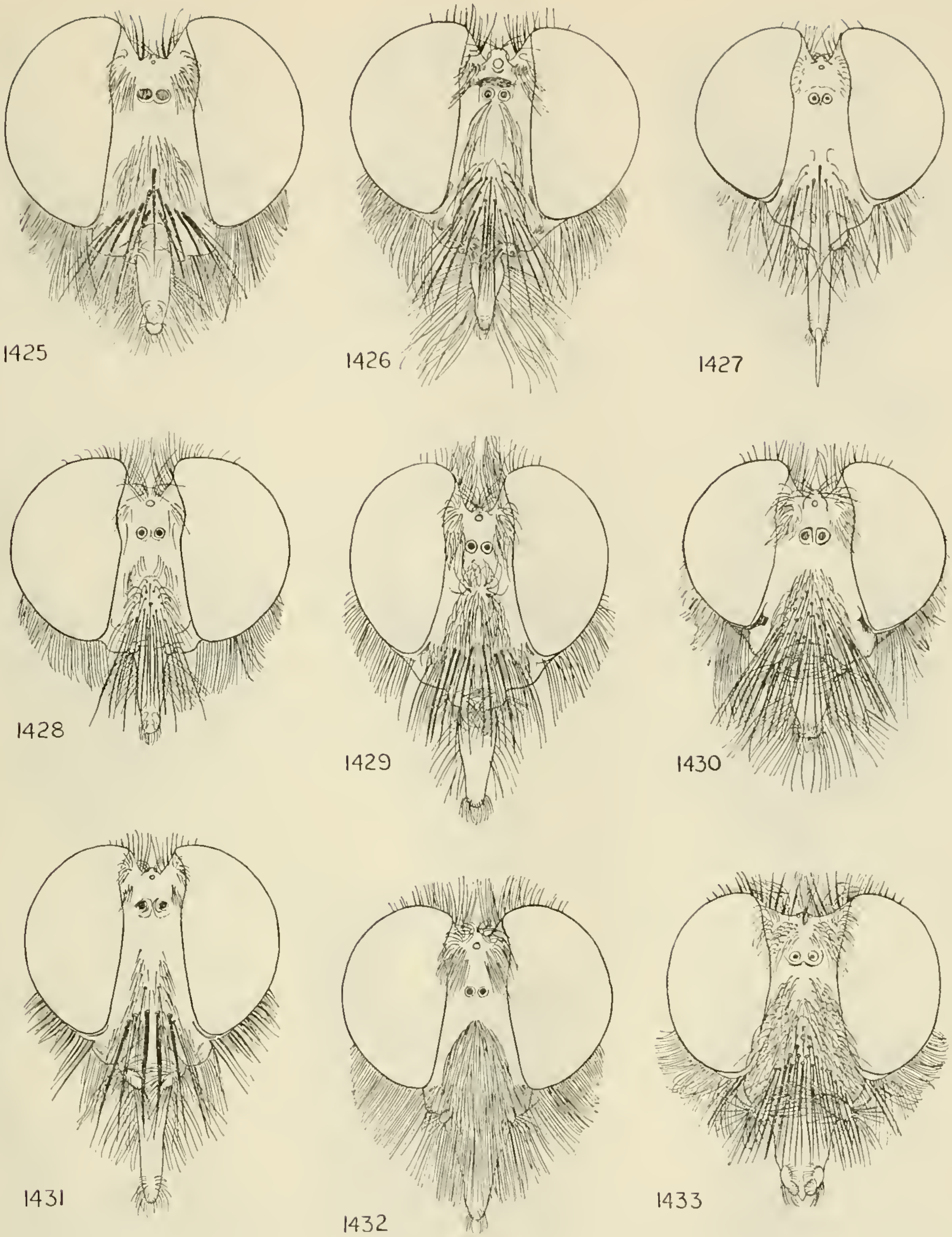
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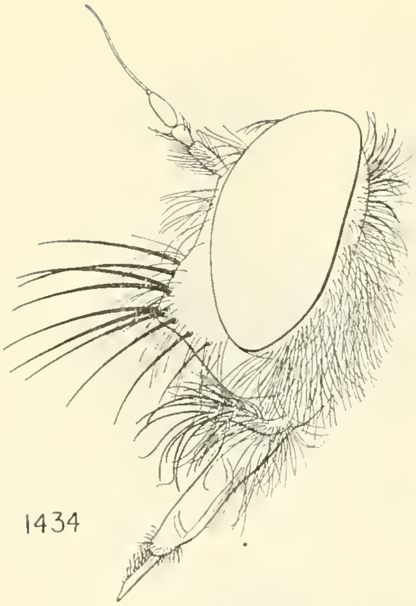
Figures 1425–1433.—1425, *Proctacanthella cacopilogus* Hine. 1426, *Alcimus longipes* Macquart. 1427, *Nyssoprosopa pollinosa*, new species. 1428, *Eicherax nigripes* Bellardi. 1429, *Lochmorhynchus senectus* Wulp. 1430, *Proctacanthus philadelphicus* Macquart. 1431, *Satanas gigas* Eversmann. 1432, *Eccoptopus longitarsis* Macquart. 1433, *Polysarca violacea* Schiner.



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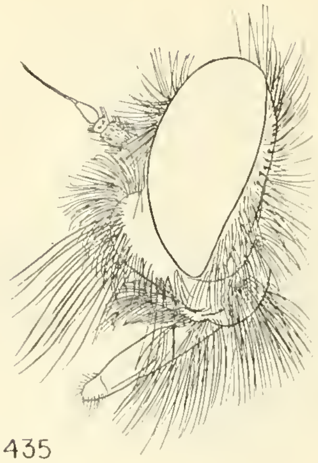

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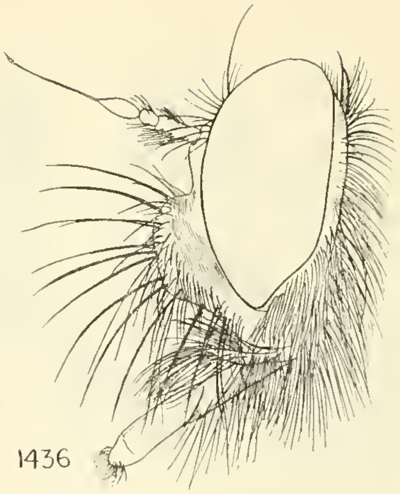

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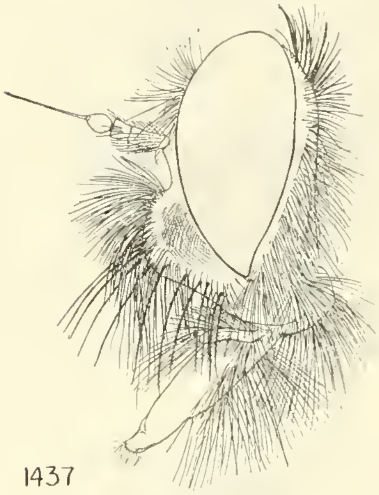

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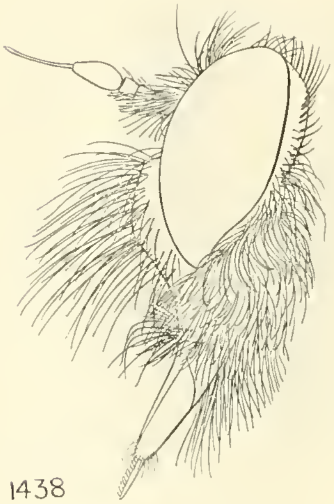

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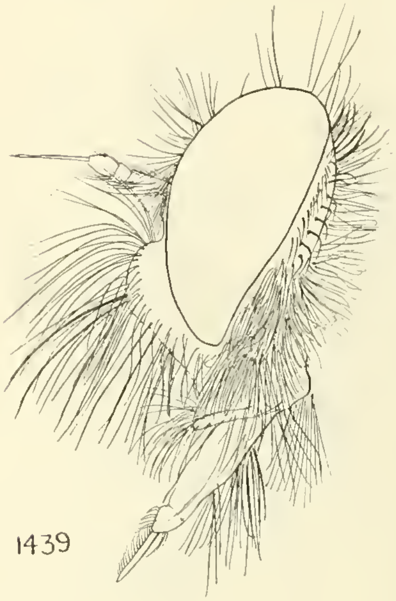

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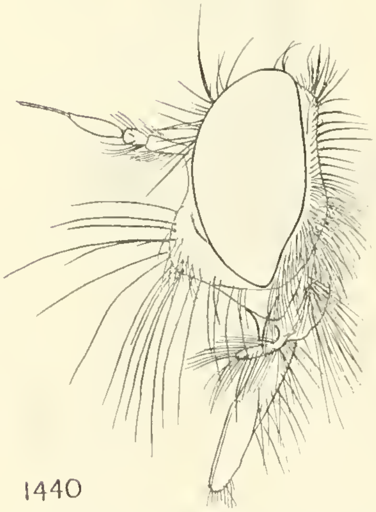

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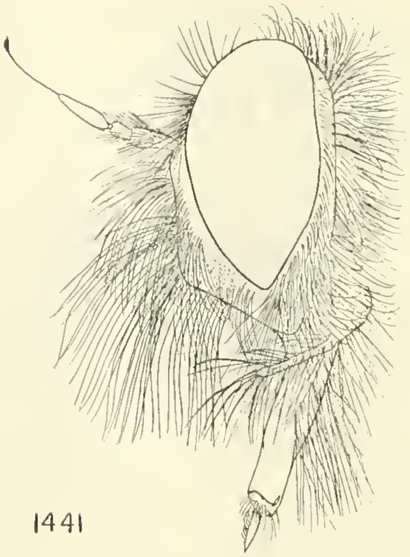

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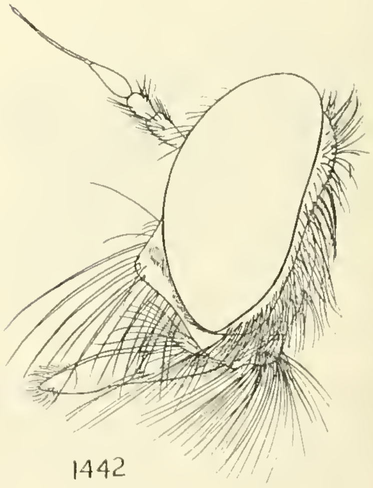
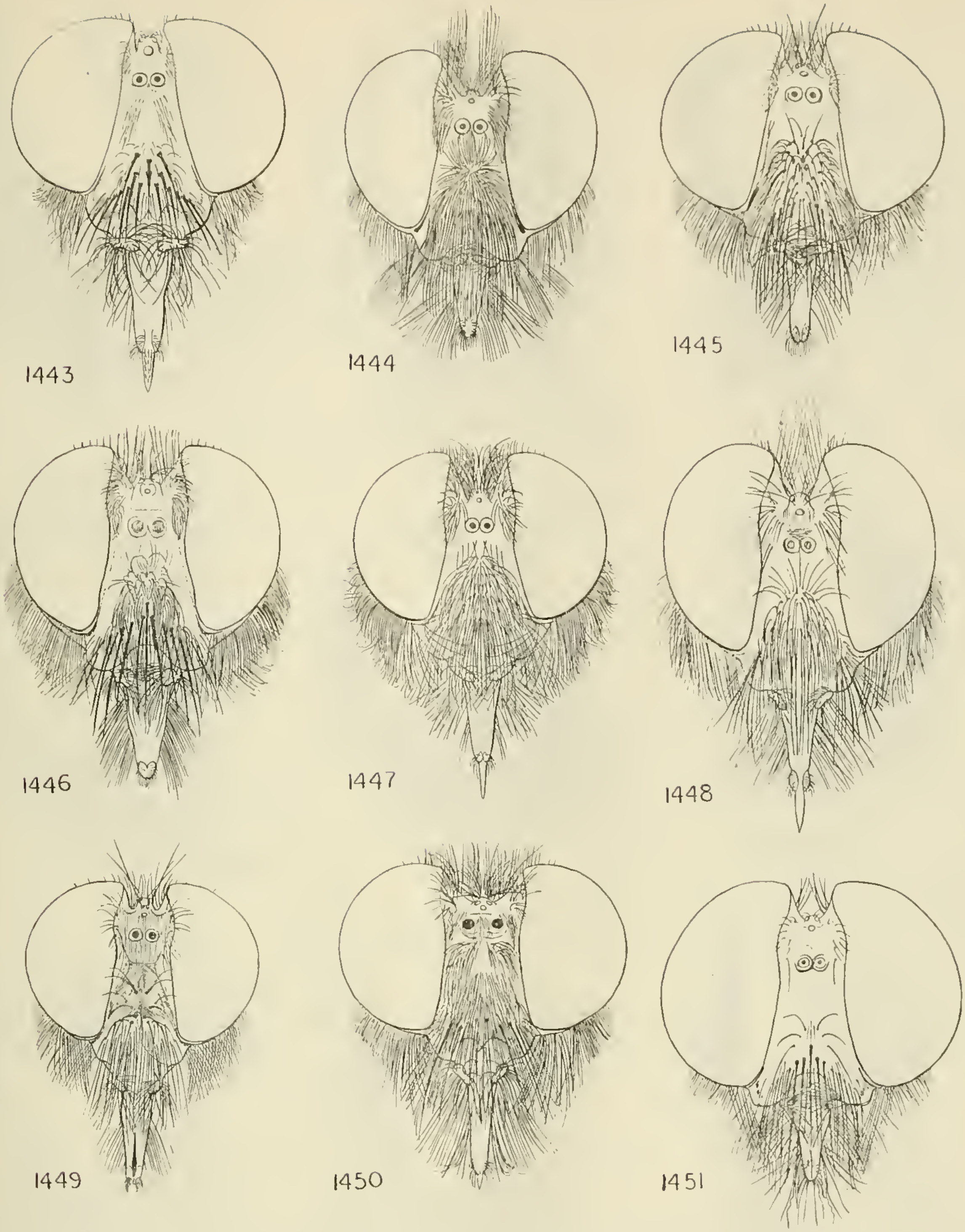


1442

FIGURES 1434–1442.—1434, *Anacinaces rufiventris* Macquart. 1435, *Lonchodogonus cribratus*, new species. 1436, *Diplosynapsis* sp. 1437, *Lochmorhynchus griseus* Guérin. 1438, *Cratolestes*



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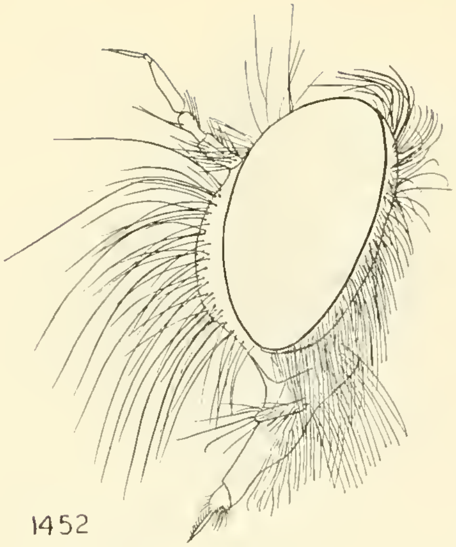
spectabilis Philippi. 1439, *Philonerax* sp. 1440, *Eichoichemus pyrrhomystax* Wiedemann. 1441, *Promachus* (*Philomachus*) *vagator* Wiedemann. 1442, *Nyssoprosopa pollinosa*, new species.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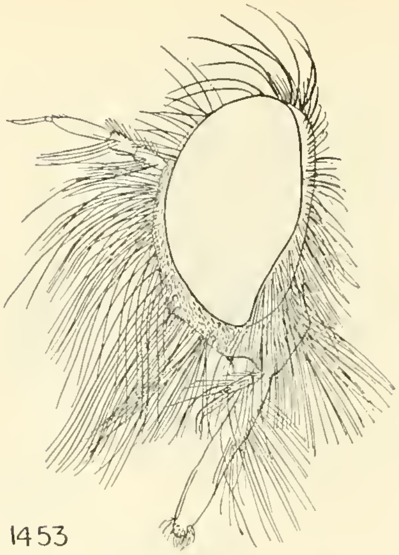
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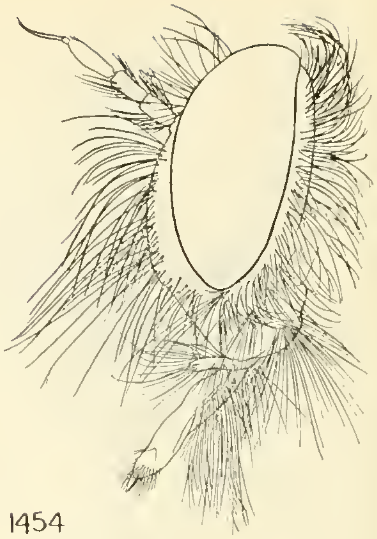
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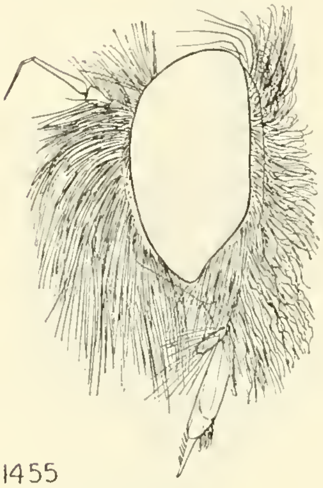
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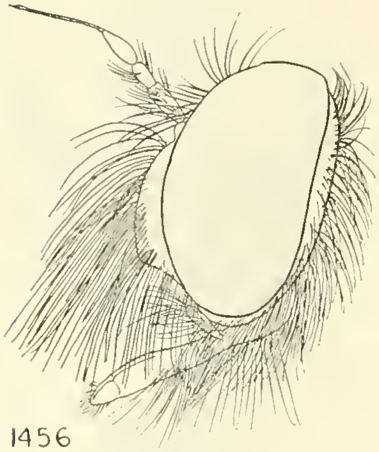
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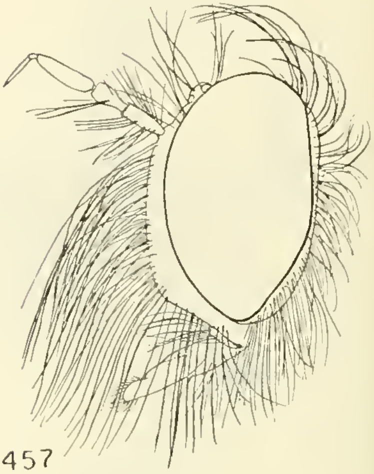
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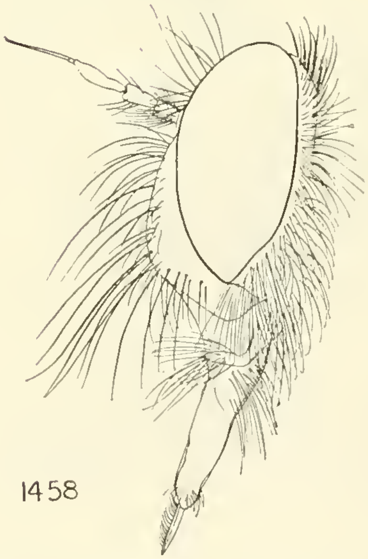
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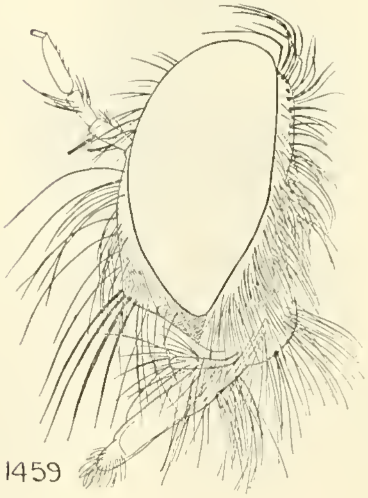
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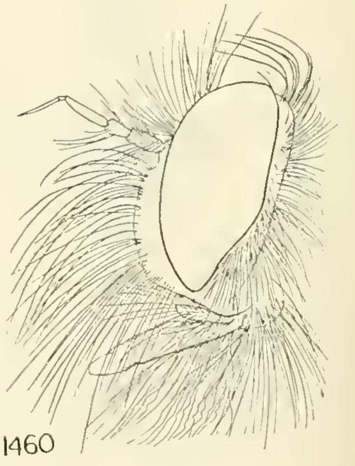
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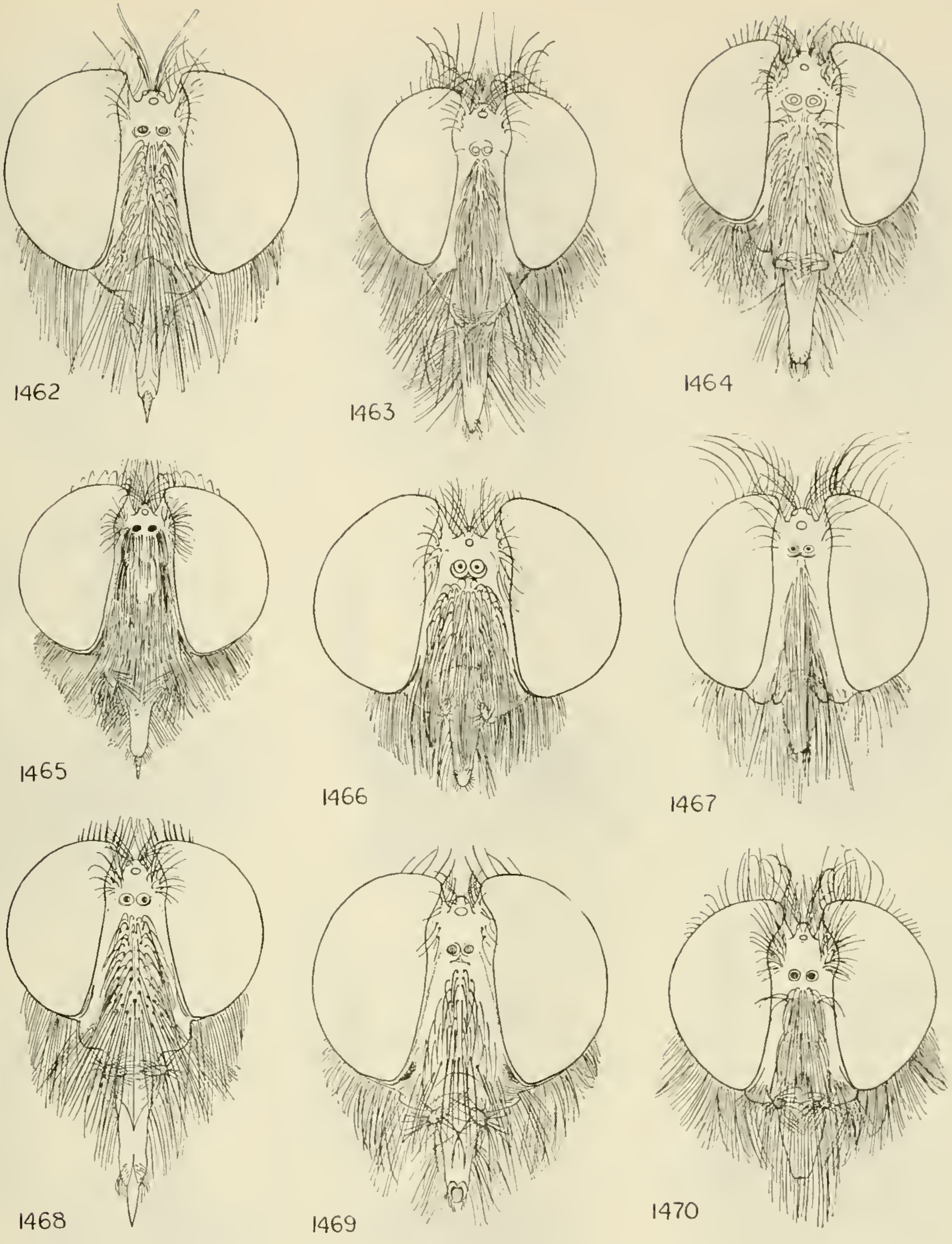
FIGURES 1452–1461.—1452, *Dasophrys hypselopterus* Engel. 1453, *Megadrillus elachipterus* Loew. 1454, *Hobbyus nigroflavipes* Hobby. 1455, *Hippomachus pegasus* Loew. 1456, *Labromyia albibarbis*, new



FIGURES 1462–1470.—1462, *Dasophrys hypselopterus* Engel. 1463, *Megadrillus elachipterus* Loew. 1464, *Hobbyus nigroflavipes* Hobby. 1465, *Hippomachus pegasus* Loew. 1466, *Labromyia albibarbis*, new species. 1467, *Lophopeltis natalensis* Ricardo. 1468, *Dysclytus firmatus* Walker. 1469, *Synolcus acrobaptus* Wiedemann. 1470, *Neodasophrys androclea* Walker.

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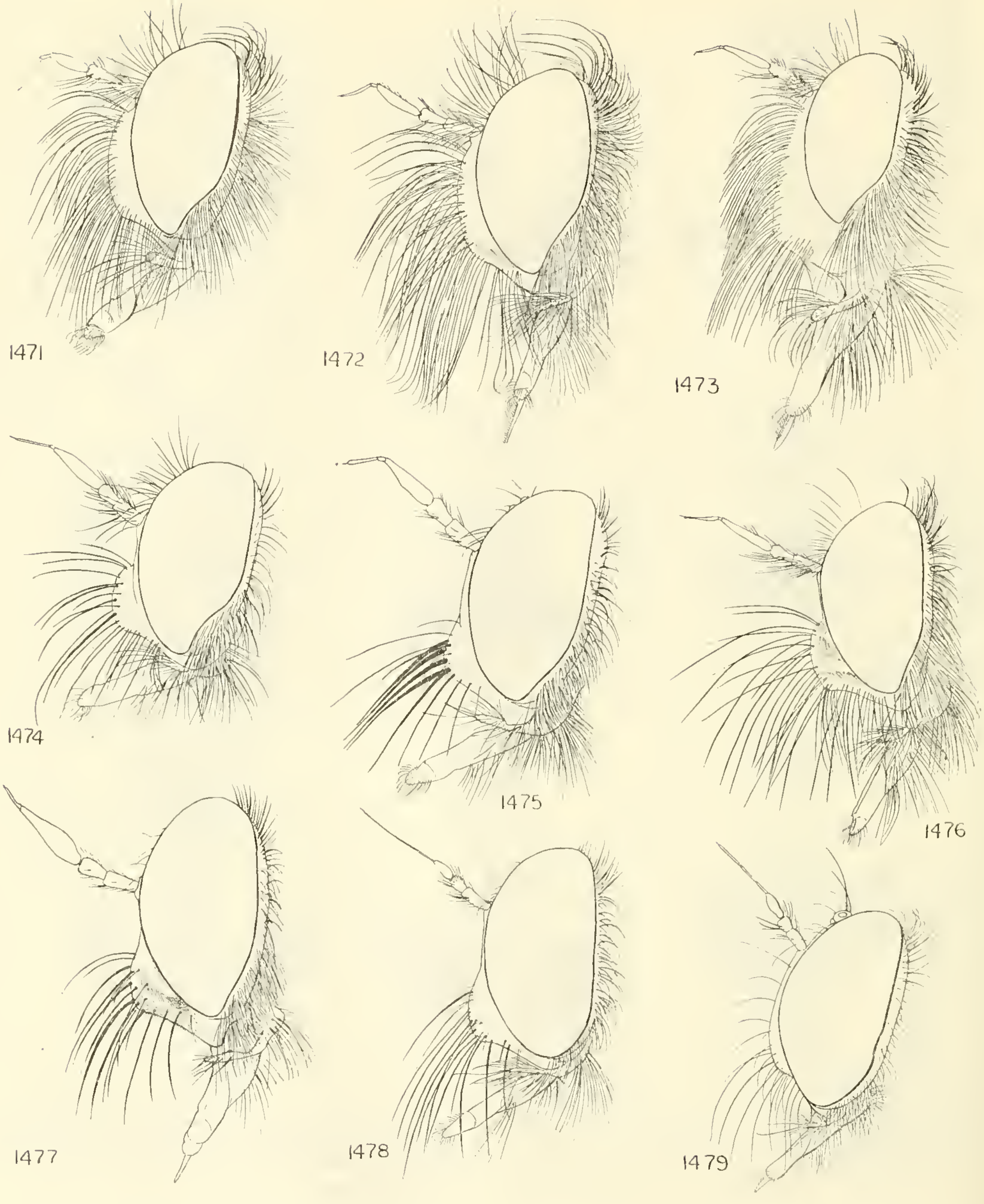
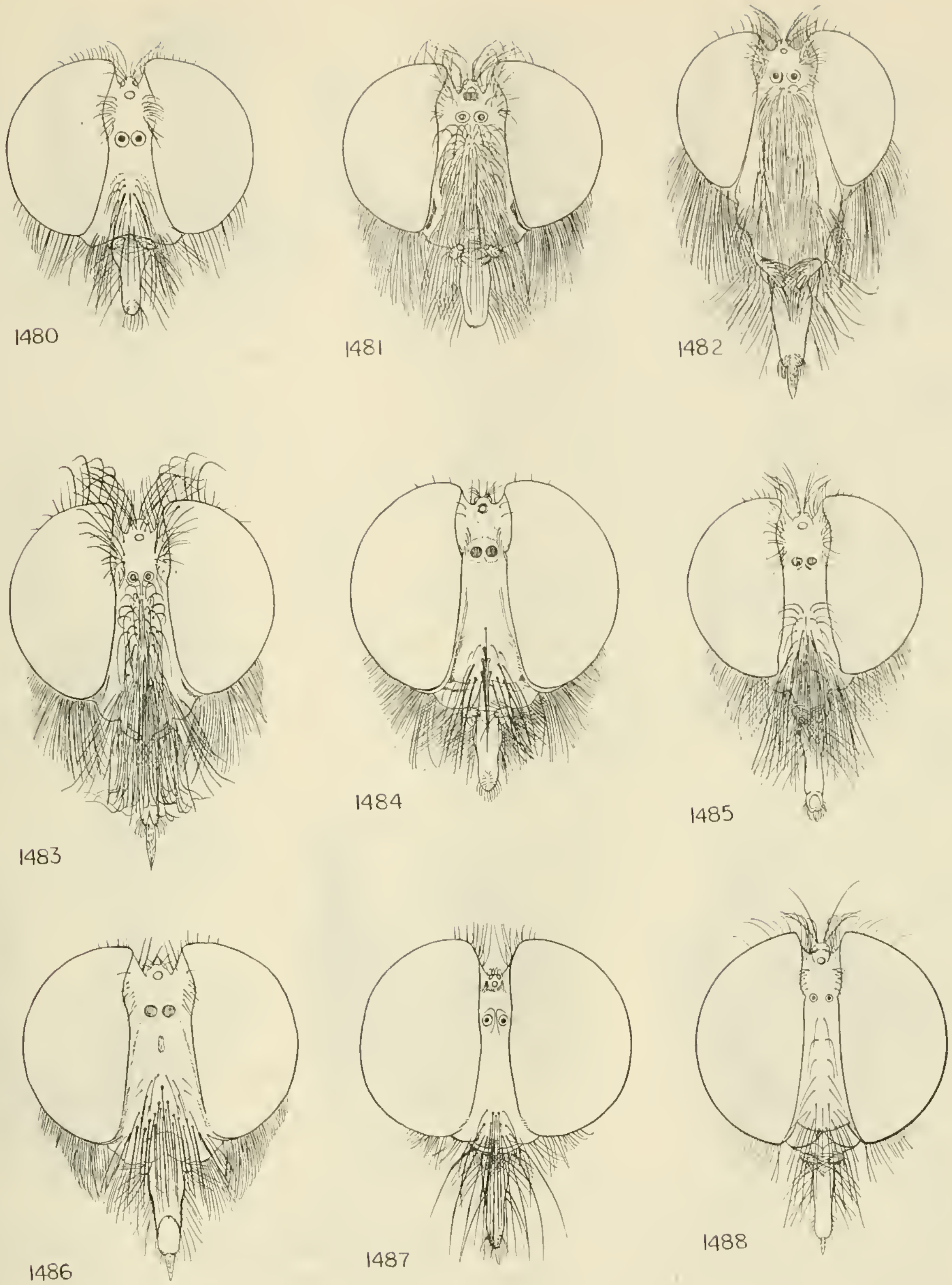
species. 1457, *Neodasophrys natalensis* Ricardo. 1458, *Dysclytus firmatus* Walker. 1459, *Synolcus acrobaptus* Wiedemann. 1460, *Neodasophrys androclea* Walker. [1461, no illustration.]



Figures 1471–1479.—1471, *Dasophrys paron* Walker. 1472, *Neolophonotus* (*Lophybus*) *tarsalis* Ricardo. 1473, *Neolophonotus chalcogaster* Wiedemann. 1474, *Tolmerus parvus* Ricardo. 1475, *Neomoctherus pallipes* Meigen. 1476, *Threnia carbonaria* Wiedemann. 1477, *Negasilus belli* Curran. 1478, *Cinadus* (*Haplonota*) *elegans* Frey. 1479, *Senoprosis tenuis* Wiedemann.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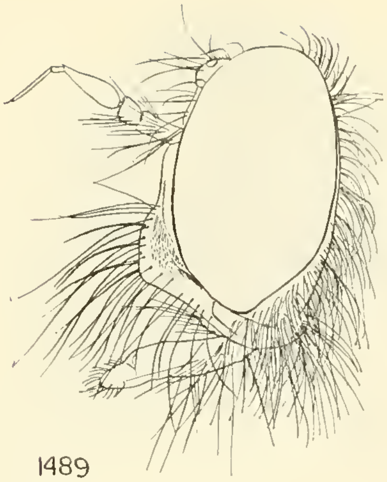
Figures 1480–1488.—1480, *Tolmerus parvus* Ricardo. 1481, *Dasophrys paron* Walker. 1482, *Neolophonotus chalcogaster* Wiedemann. 1483, *Neolophonotus* (*Lophybus*) *tarsalis* Ricardo. 1484, *Neomoctherus pallipes* Meigen. 1485, *Threnia carbonaria* Wiedemann. 1486, *Negasilus belli* Curran. 1487, *Cinadus* (*Haplonota*) *elegans* Frey. 1488, *Senoproposis tenuis* Wiedemann.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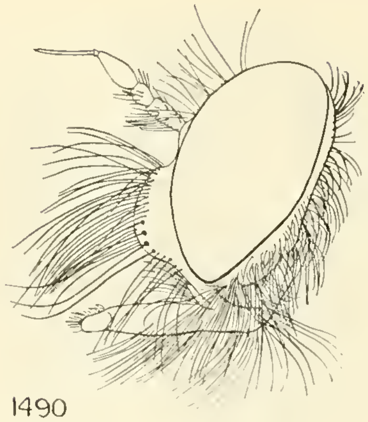
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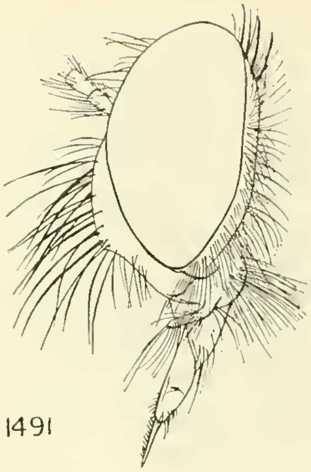
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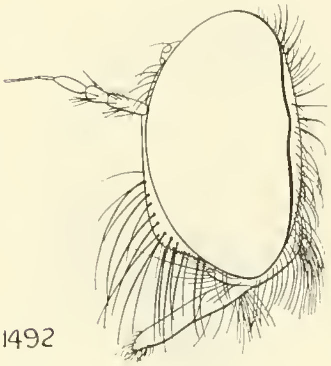
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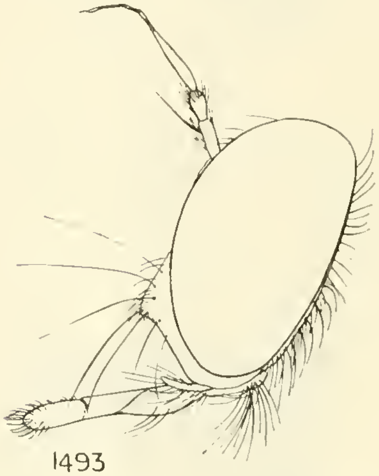
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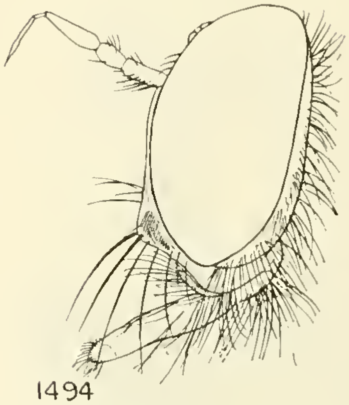
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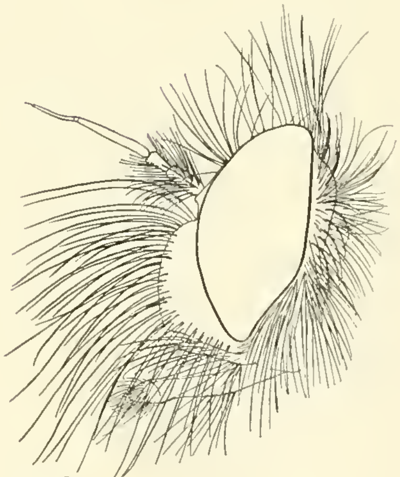
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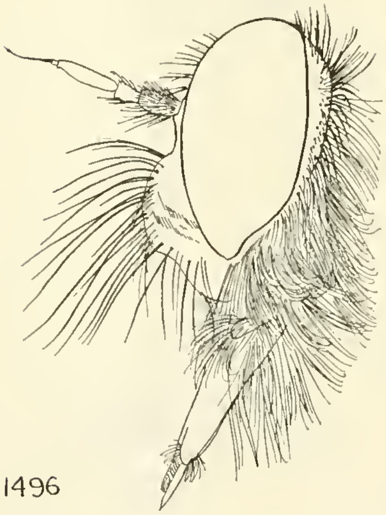
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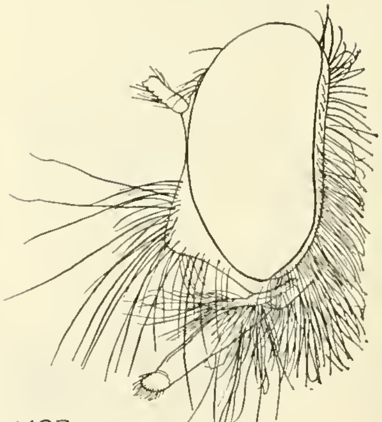
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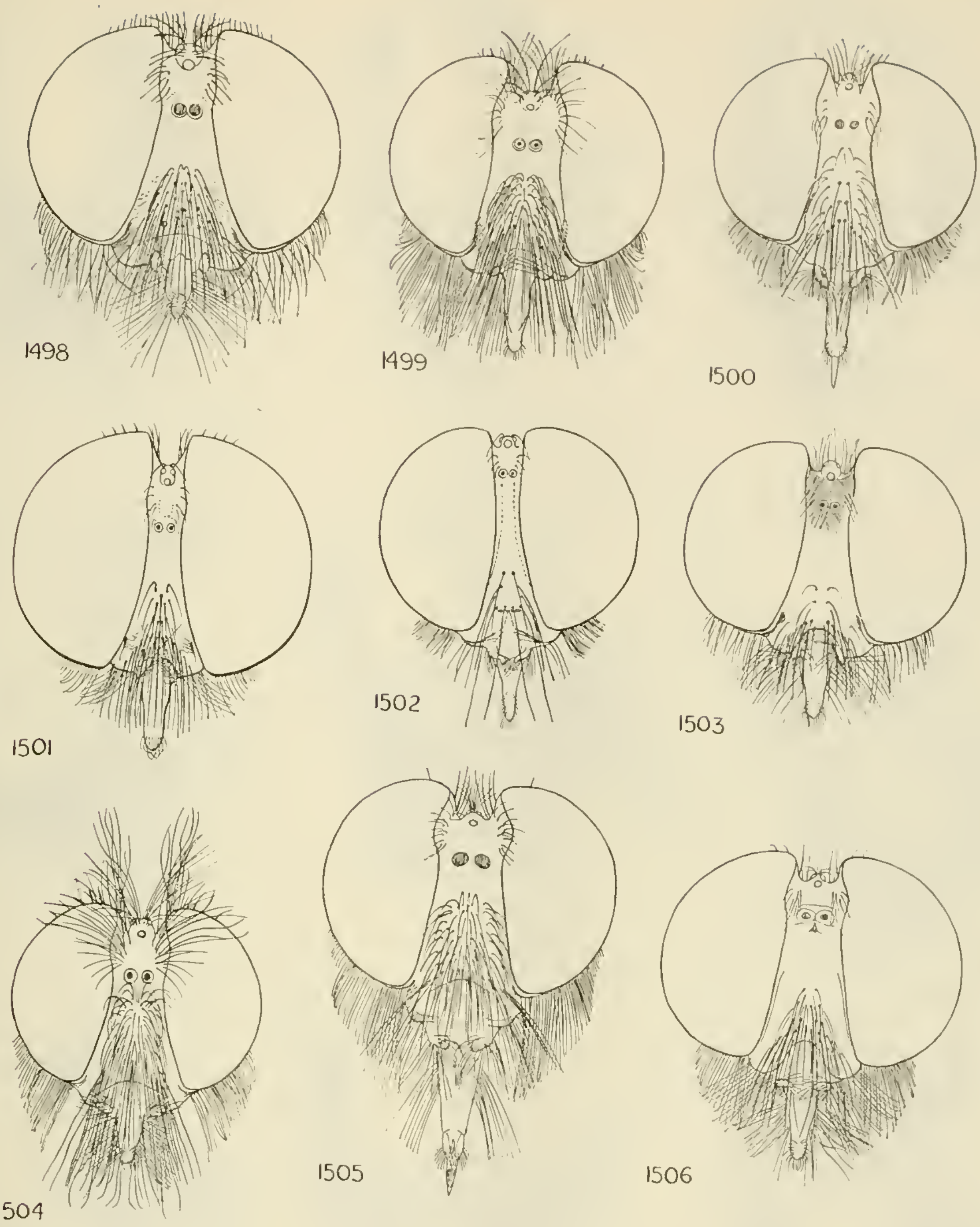
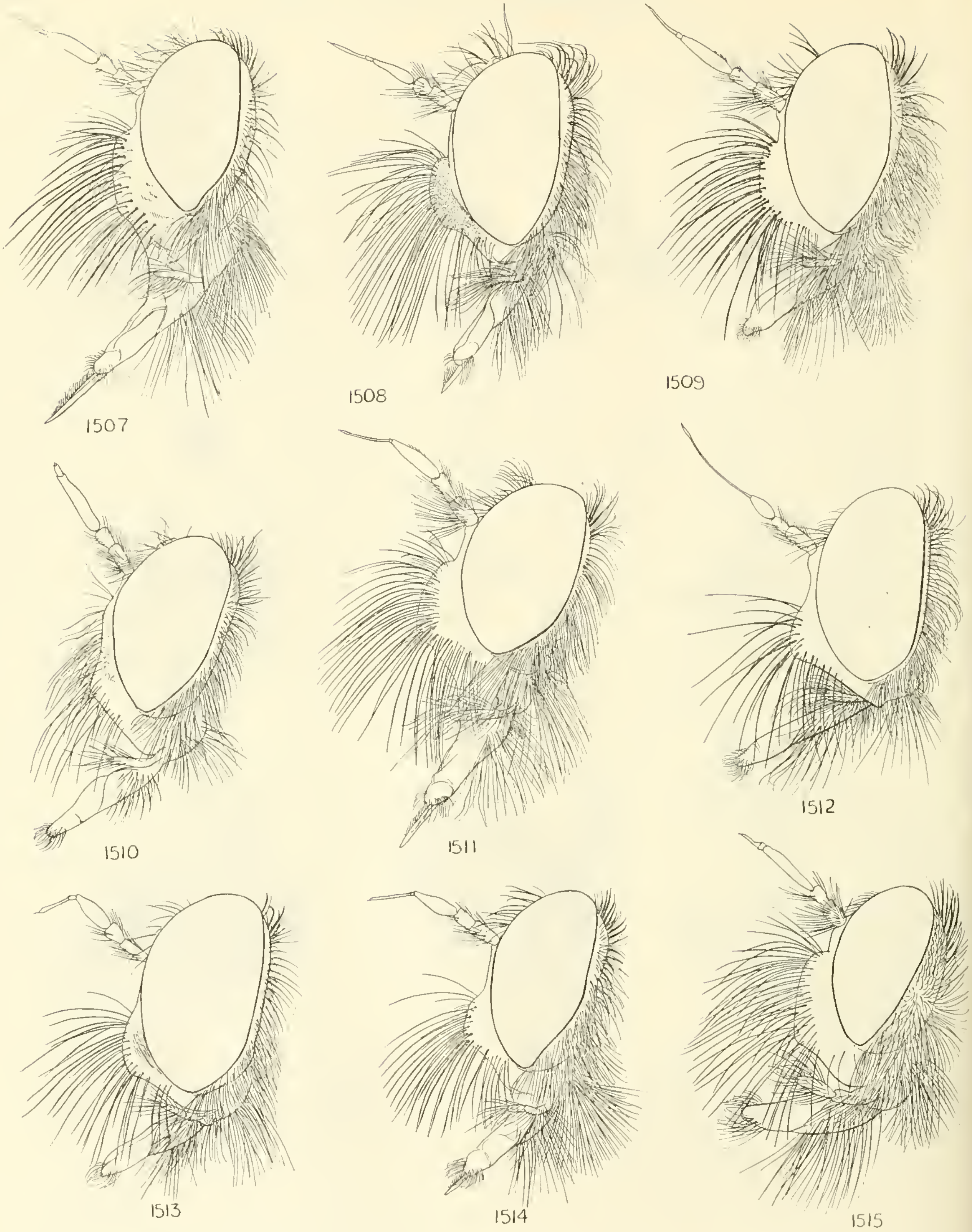
Figures 1489–1497.—1489, *Cerdistus* (*Neocerdistus*) *acutangularis* Macquart. 1490, *Myaptex hermanni*, new species. 1491, *Epiklisis pilitarsis* Becker. 1492, *Senoproposis impendens* Wiedemann. 1493, *Opopotes attenuatus* Hull. 1494, *Leptoharpacticus mucius* Walker. 1495, *Erax punctatus* Meigen. 1496, *Acanthopleura brunnipes* Fabricius. 1497, *Clephydroneura xanthopus* Wiedemann.



Figures 1498–1506.—1498, *Cerdistus* (*Neocerdistus*) *acutangularis* Macquart. 1499, *Myaptex hermanni*, new species. 1500, *Epiklisis pilitarsis* Becker Paratype. 1501, *Senoprosopis impendens* Wiedemann. 1502, *Opopotes attenuatus* Hull. 1503, *Leptoharpacticus mucius* Walker. 1504, *Erax punctatus* Meigen. 1505, *Acanthopleura brunnipes* Fabricius. 1506, *Clephydroneura xanthopus* Wiedemann.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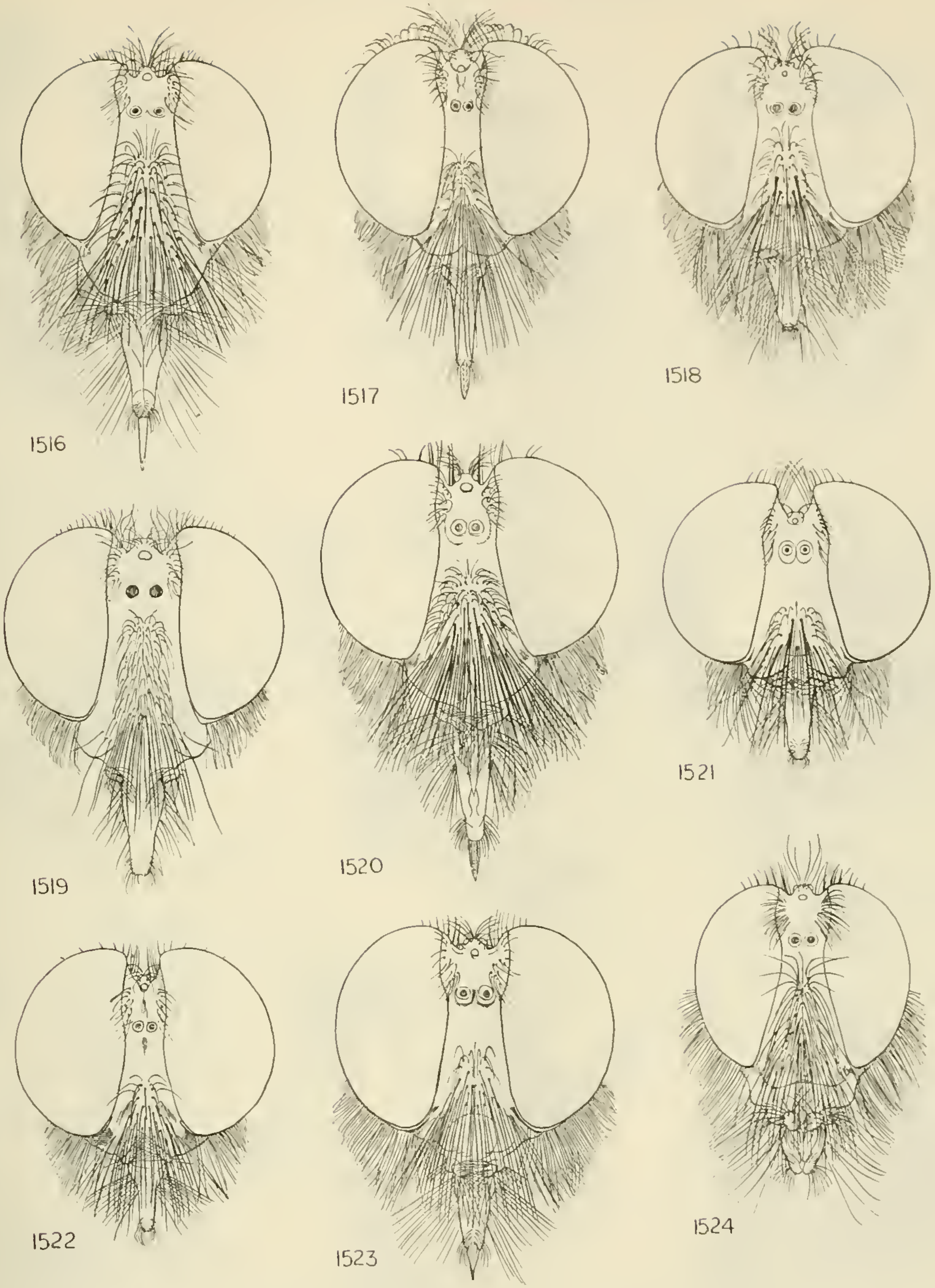
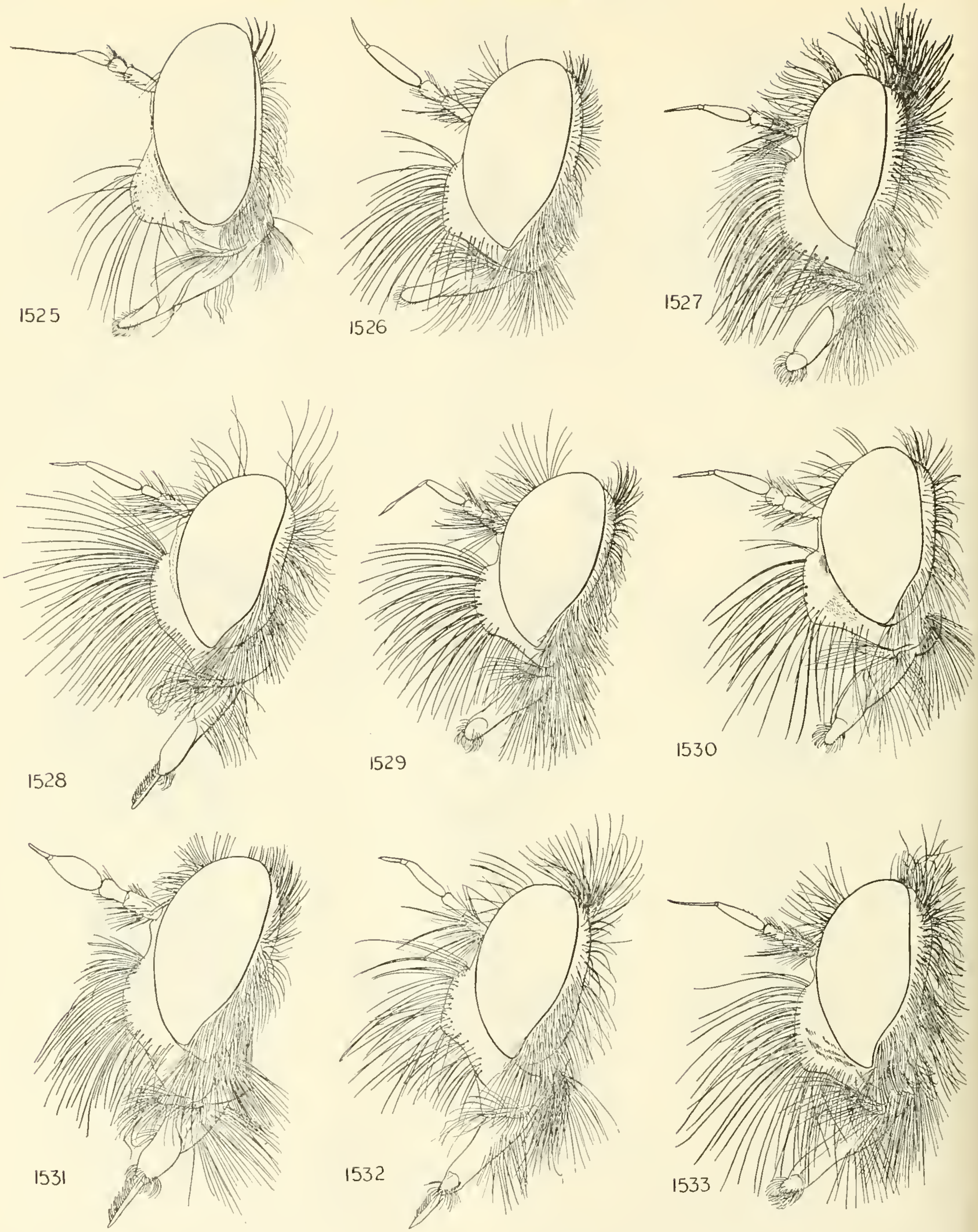
Figures 1507–1515.—1507, *Echthistus cognatus* Loew. 1508. *Neoitamus cyanurus* Loew. 1509, *Eutolmus rufibarbis* Meigen. 1510, *Polyphonius laevigatus* Loew. 1511, *Antipalus varipes* Meigen. 1512,



FIGURES 1516–1524.—1516, *Echthistus cognatus* Loew. 1517, *Neoitamus cyanurus* Loew. 1518, *Eutolmus rufibarbis* Meigen. 1519, *Polyphonius laevigatus* Loew. 1520, *Antipalus varipes* Meigen. 1521, *Catostola* sp. 1522, *Cerdistus erythrurus* Meigen. 1523, *Philonicus albiceps* Meigen. 1524, *Trichomachimus pubescens* Ricardo.

Catostola sp. 1513, *Cerdistus erythrurus* Meigen. 1514, *Philonicus albiceps* Meigen. 1515, *Trichomachimus pubescens* Ricardo.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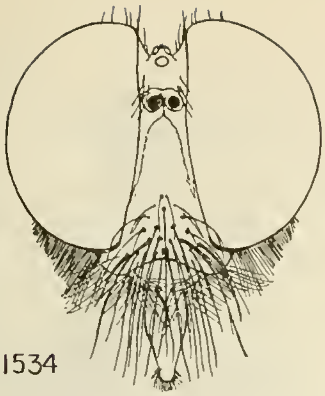
Figures 1525–1533.—1525, *Hoplopheromerus armatipes* Macquart. 1526, *Epitriptus cingulatus* Fabricius. 1527, *Cratopoda gayi* Macquart. 1528, *Stizolestes nigriventris* Philippi. 1529, *Dinozabrus*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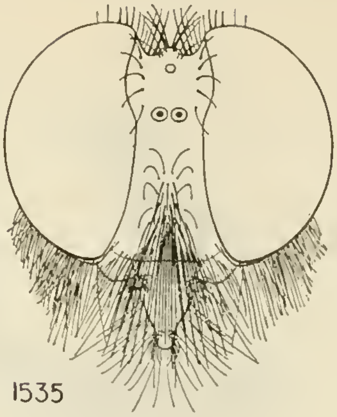
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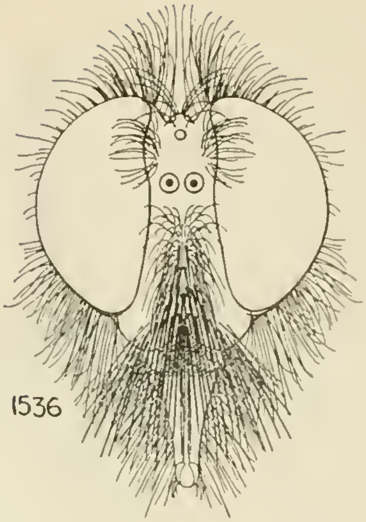
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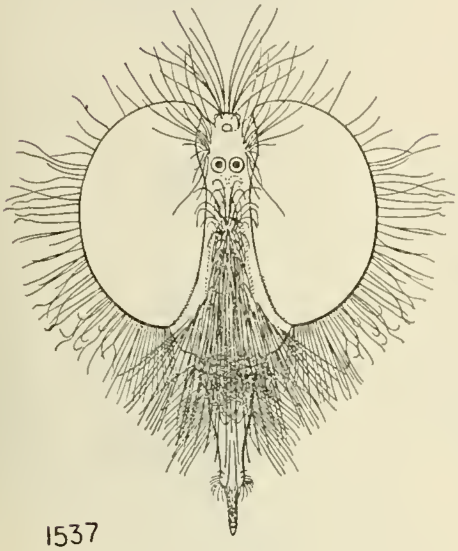
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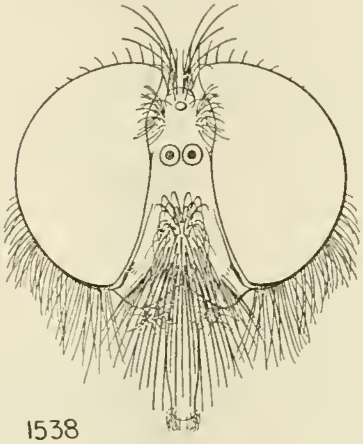
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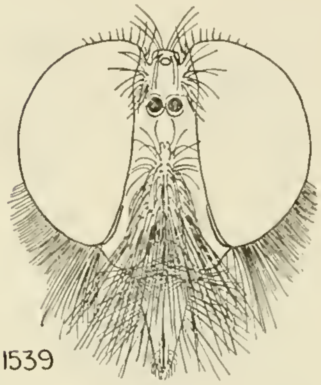
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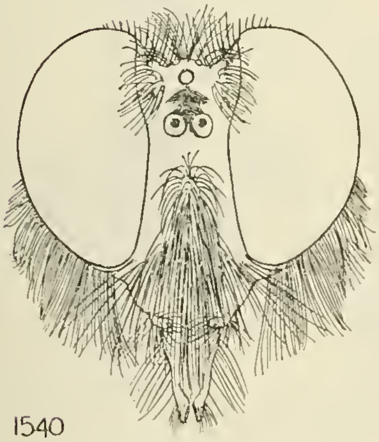
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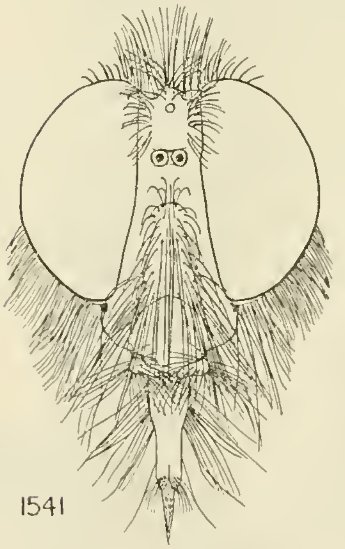
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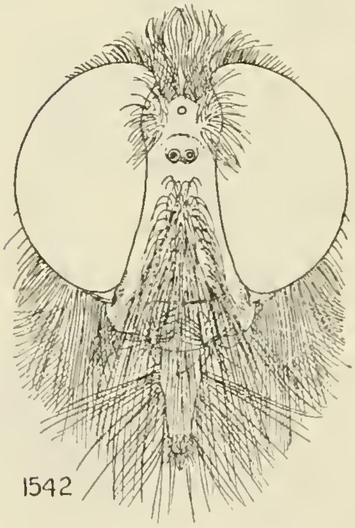
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Figures 1534–1542.—1534, *Hoplopheromerus armatipes* Macquart. 1535, *Epitriptus cingulatus* Fabricius. 1536, *Cratopoda gayi* Macquart. 1537, *Stizolestes nigriventris* Philippi. 1538, *Dinozabrus bicolor*, new species. 1539, *Stilpnogaster aemula* Meigen. 1540, *Antiphrisson trifarius* Loew. 1541, *Dysmachus trigonus* Meigen. 1542, *Machimus chrysitis* Meigen.

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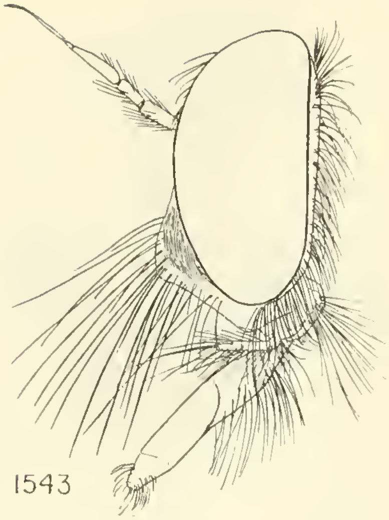
bicolor, new species. 1530, *Stilpnogaster aemula* Meigen. 1531, *Antiphrisson trifarius* Loew. 1532, *Dysmachus trigonus* Meigen. 1533, *Machimus chrysitis* Meigen.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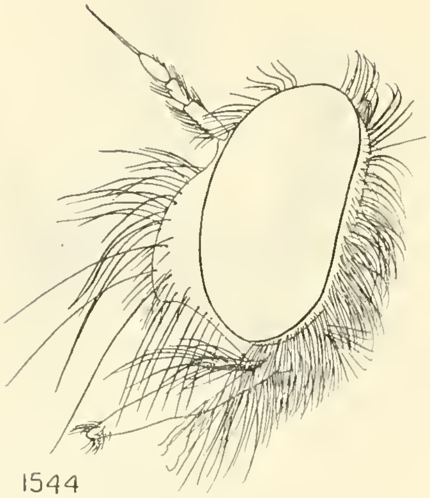
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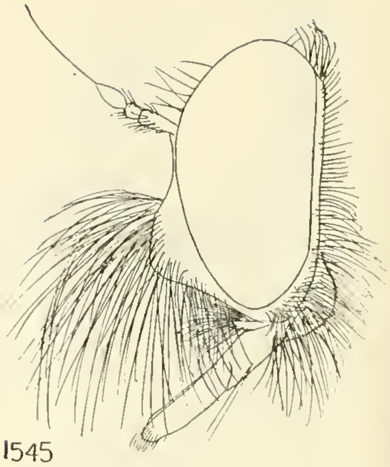
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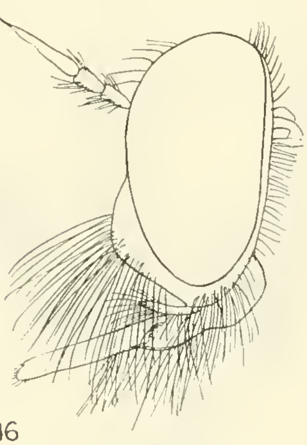
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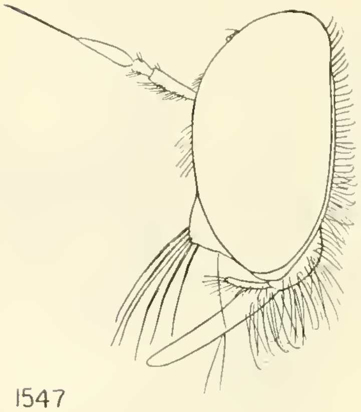
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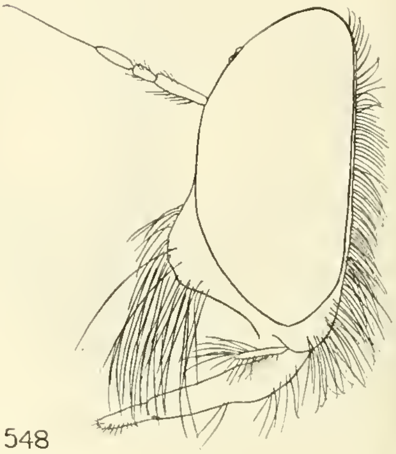
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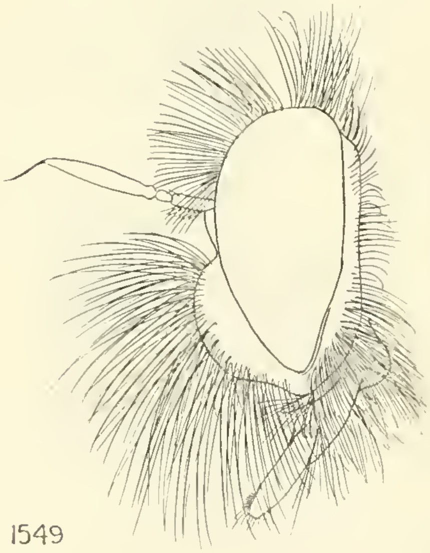
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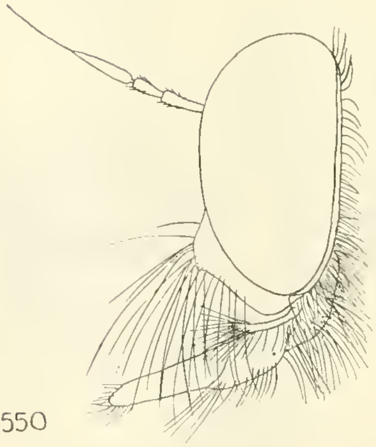
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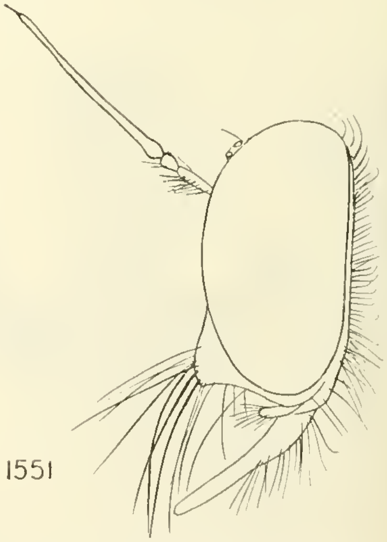
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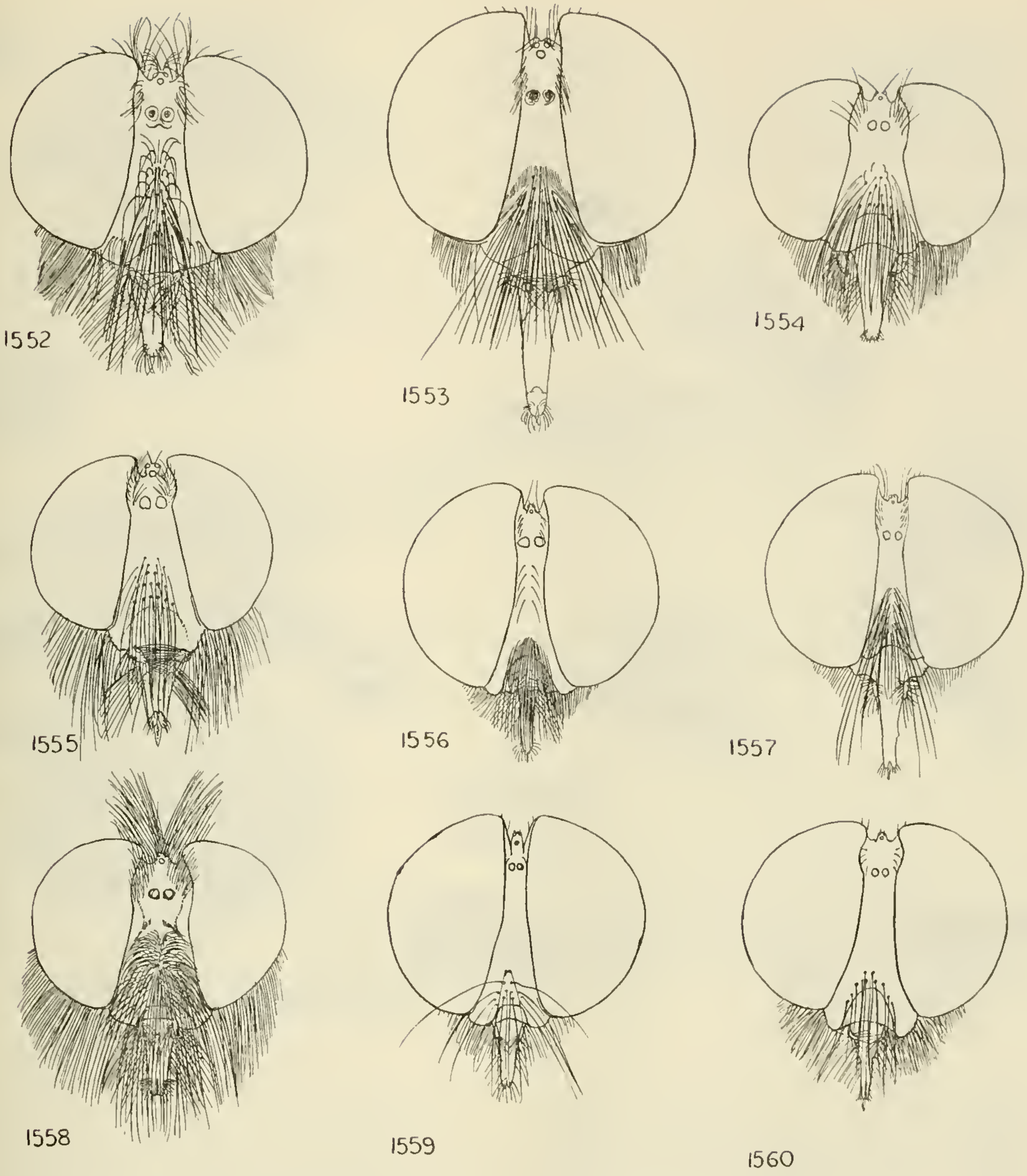
Figures 1543–1551.—1543, *Orophotus montanus* Ricardo. 1544, *Oligoschema contorta* Walker. 1545, *Catostola carrerai* Hull. 1546, *Cnodalomyia obtusa*, new species. 1547, *Lycoprosopa atrimaculatus* Hobby. 1548, *Cinadus* sp. 1549, *Lestophonax mallophoroides*, new species. 1550, *Cobalomyia fanovanensis* Bromley. 1551, *Strophipogon bromleyi* Hull.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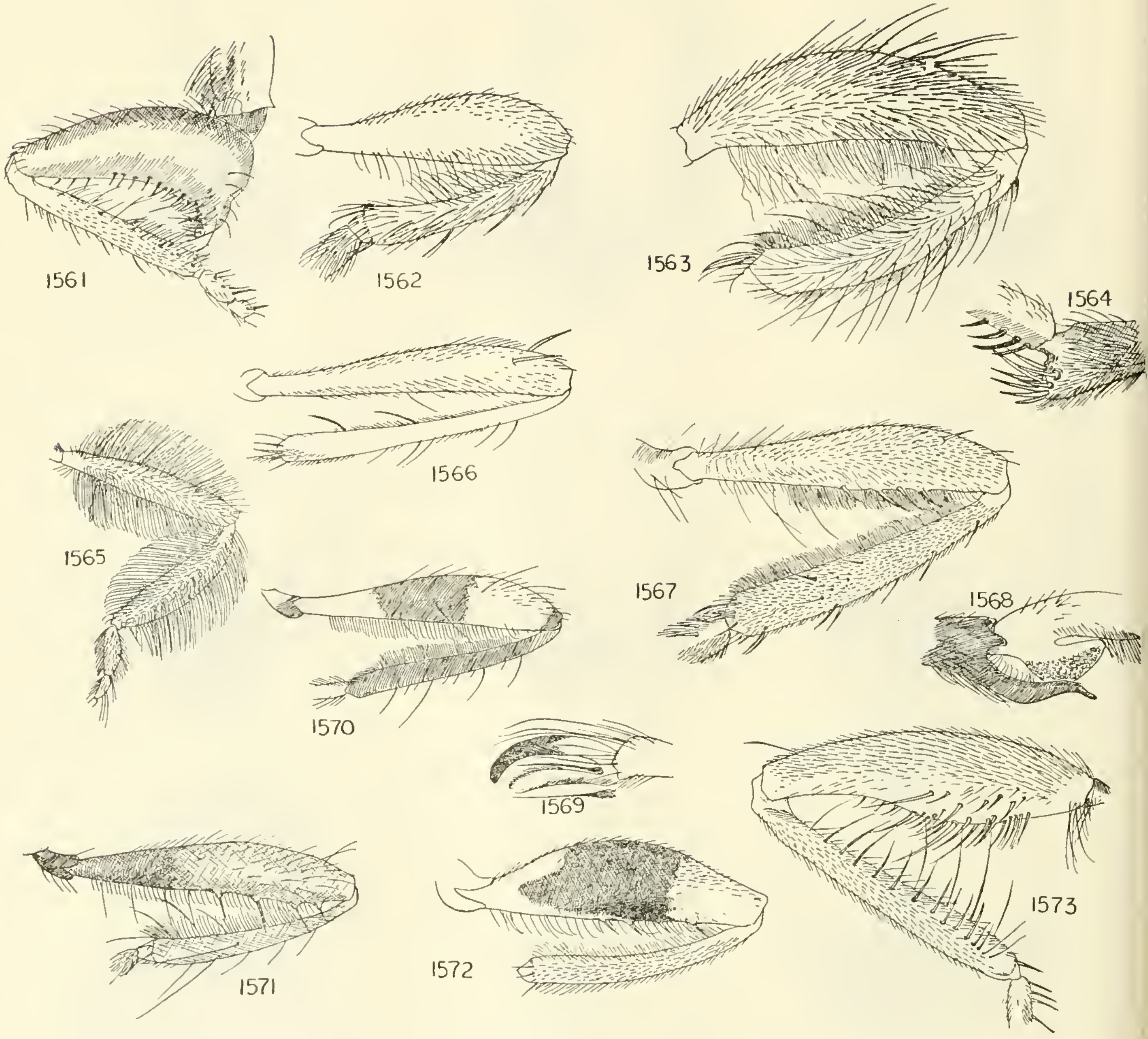
Figures 1552–1560.—1552, *Oligoschema contorta* Walker. 1553, *Orophotus montanus* Ricardo. 1554, *Catostola carrerai* Hull. 1555, *Cnodalomyia obtusa*, new species. 1556, *Lycoprosopa atrimaculata* Hobby. 1557, *Cinadus* sp. 1558, *Lestophonax mallophoroides*, new species. 1559, *Strophipogon bromleyi* Hull. 1560, *Cobalomyia fanovanensis* Bromley.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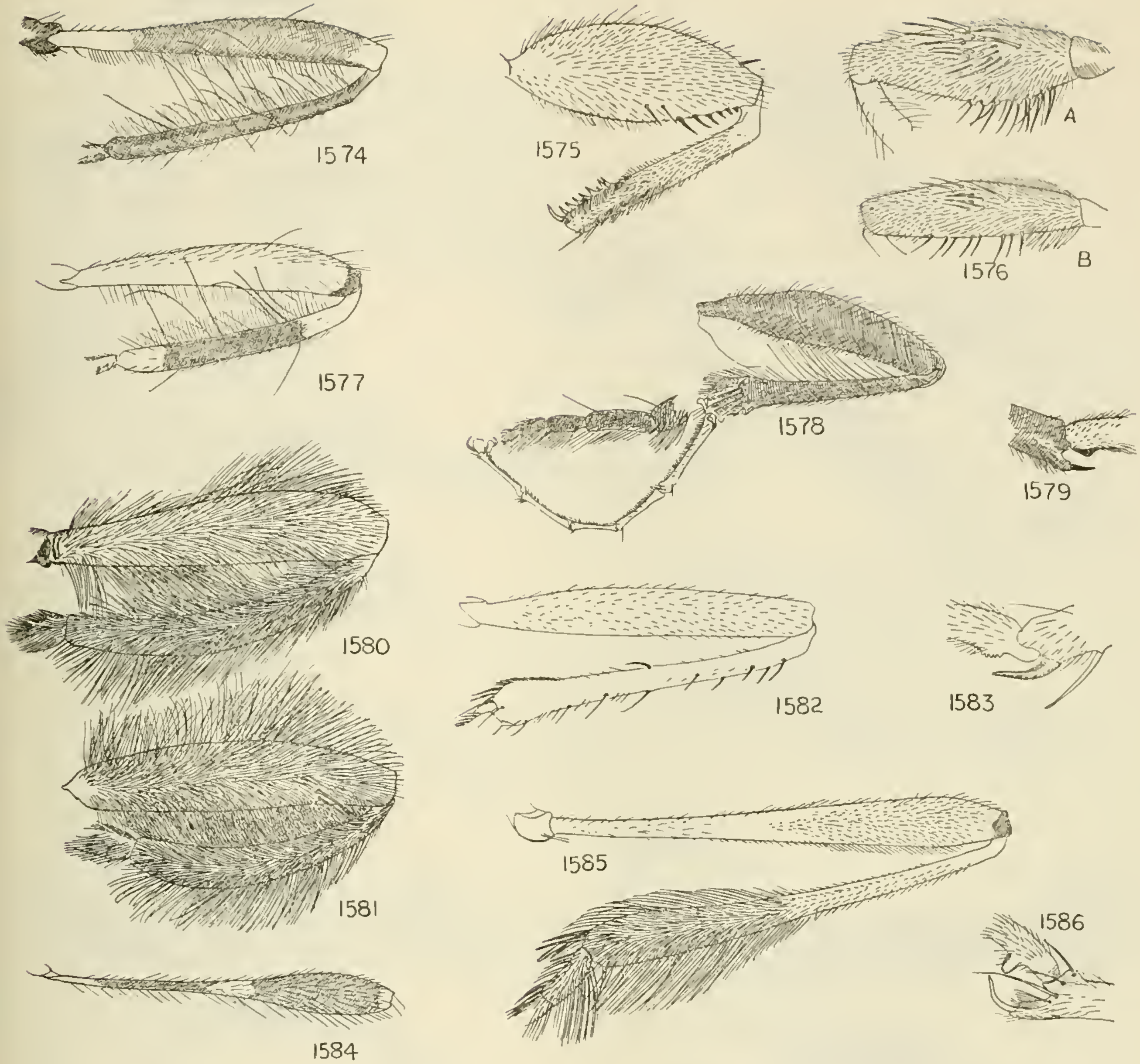
Figures 1561–1573.—1561, *Gonioscelis longulus* Ricardo. 1562, *Aratainiops abdominalis* Brown. 1563, *Apoxyria apicata* Schiner. 1564, *Megapoda labiata* Fabricius. 1565, *Trigonomima pennipes* Hermann. 1566, *Lycomya germainii* Bigot. 1567, *Acrochordomerus aeneus* Hermann. 1568, *Megapoda labiata* Fabricius. 1569, *Stiphrolamyra comans* Hobby. 1570, *Opocapsis dioctrioides* Walker. 1571, *Dismeryngodes dispar* Walker. 1572, *Storthyngomerus tridentatus* Fabricius. 1573, *Hoplopheromerus armatipes* Macquart.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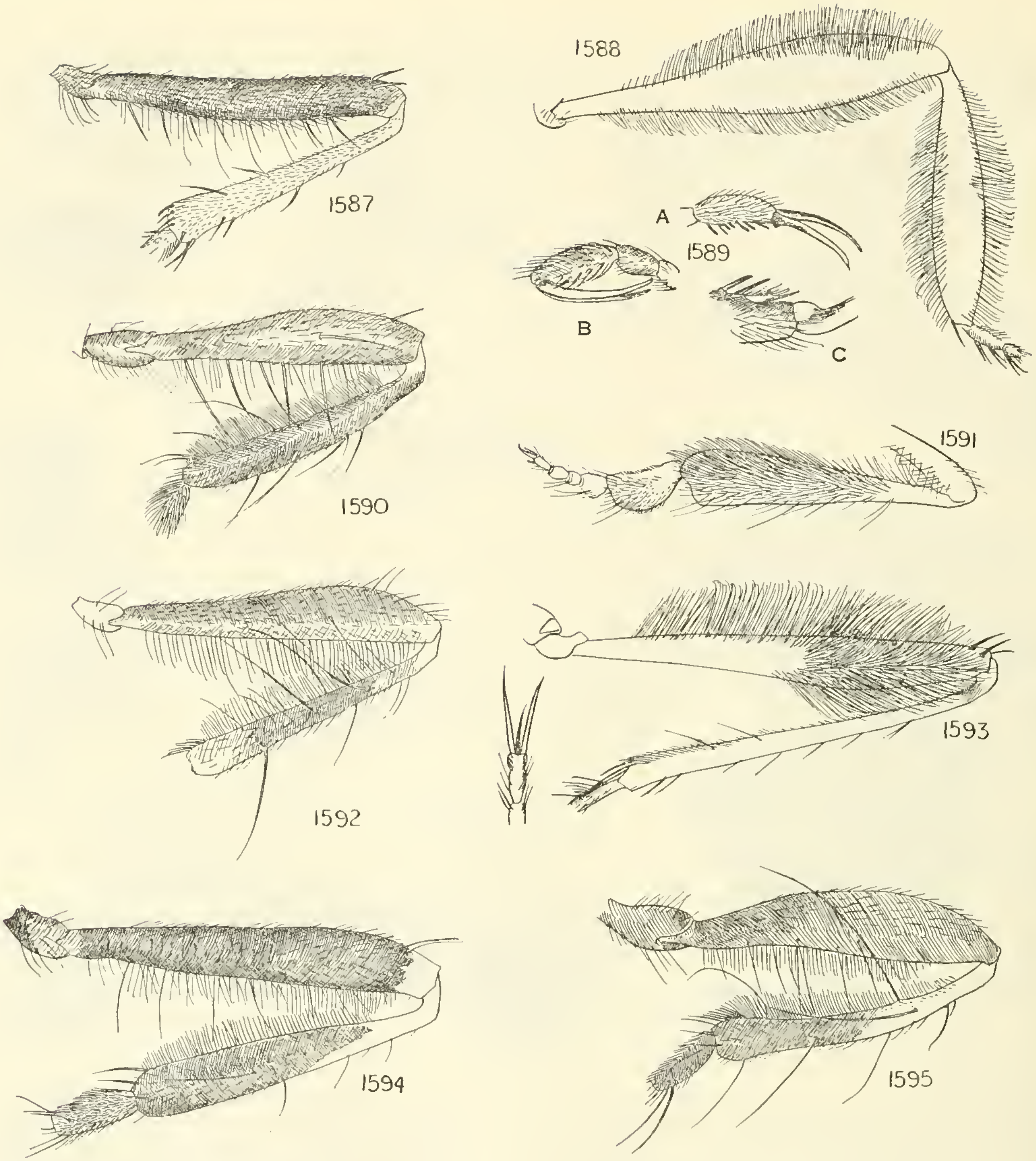
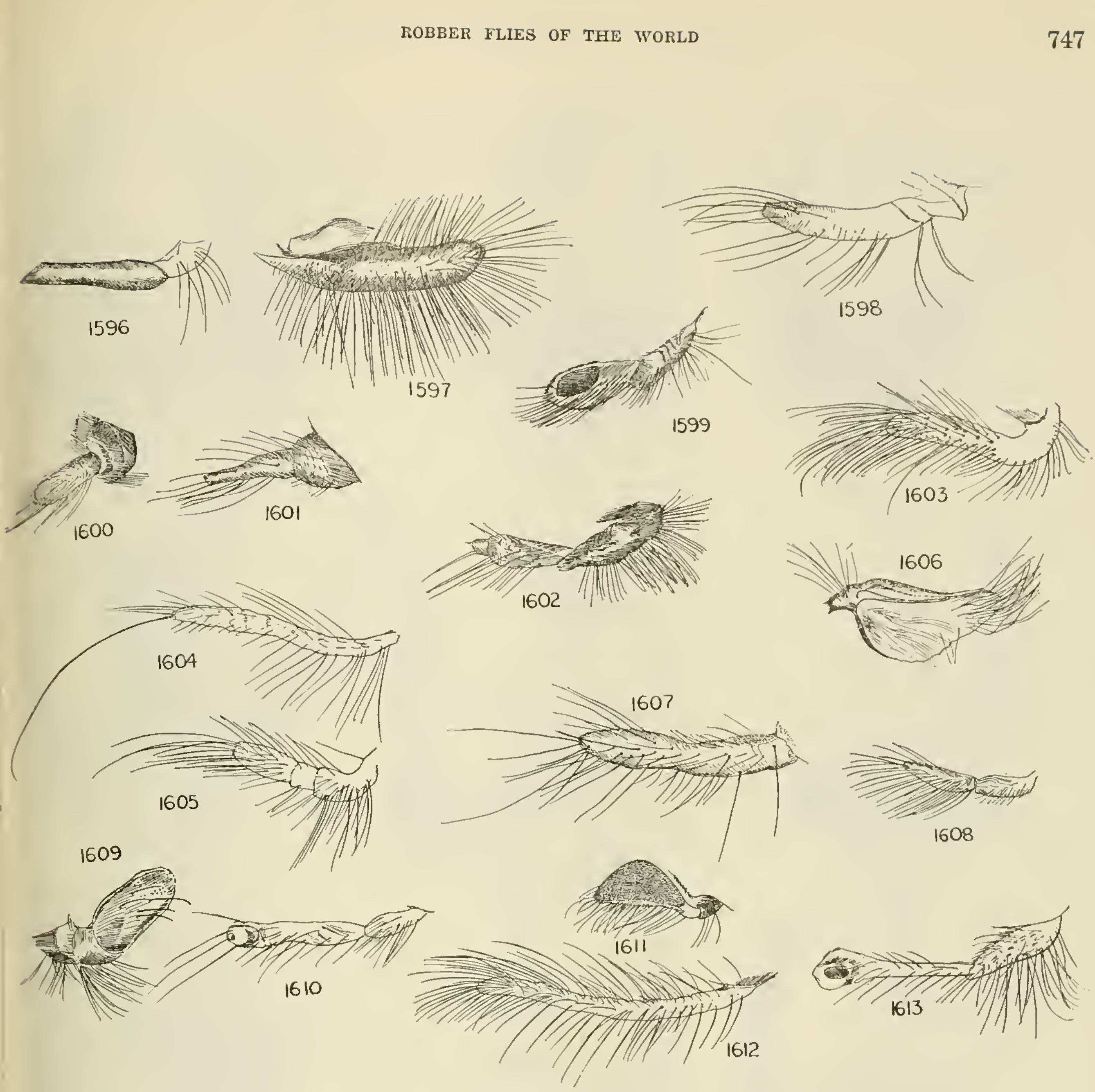
Figures 1574–1586.—1574, *Anoplothyrea javana* de Meijere. 1575, *Polyphonius laevigatus* Loew. 1576A, *Sphageus chalcoproctus* Loew; 1576B, *Sphageus chalcoproctus* Loew. 1577, *Dichaetothyrea punctulosa* de Meijere. 1578, *Aireina paradoxa* Frey. 1579, *Brachyrrhopala Quadricincta* Bigot. 1580, *Hyperechia* sp. 1581, *Dassylina fulvithorax* Bromley. 1582, *Annamyia maren* Pritchard. 1583, *Annamyis maren* Pritchard. 1584, *Shannomyioleptus fragilis* Carrera. 1585, *Dolichoscius* sp. 1586, *Neosaropogon princeps* Macquart.



FIGURES 1587–1595.—1587, *Psilinus cinerascens* Wulp. 1588, *Lasiocnemus* sp. 1589A, *Mesoleptogaster fuscatipennis* Frey; 1589B, *Mesoleptogaster fuscatipennis* Frey; 1589C, *Mesoleptogaster fuscatipennis* Frey. 1590, *Goneccalypsis* sp. 1591, *Pseudoholopogon chalcogaster* Dufour. 1592, *Clariola pulchra* Kertesz. 1593, *Ophionomima solocifemur* Enderlein. 1594, *Goneccalypsis lucida* Hermann. 1595, *Opeatocerus purpurata* Westwood.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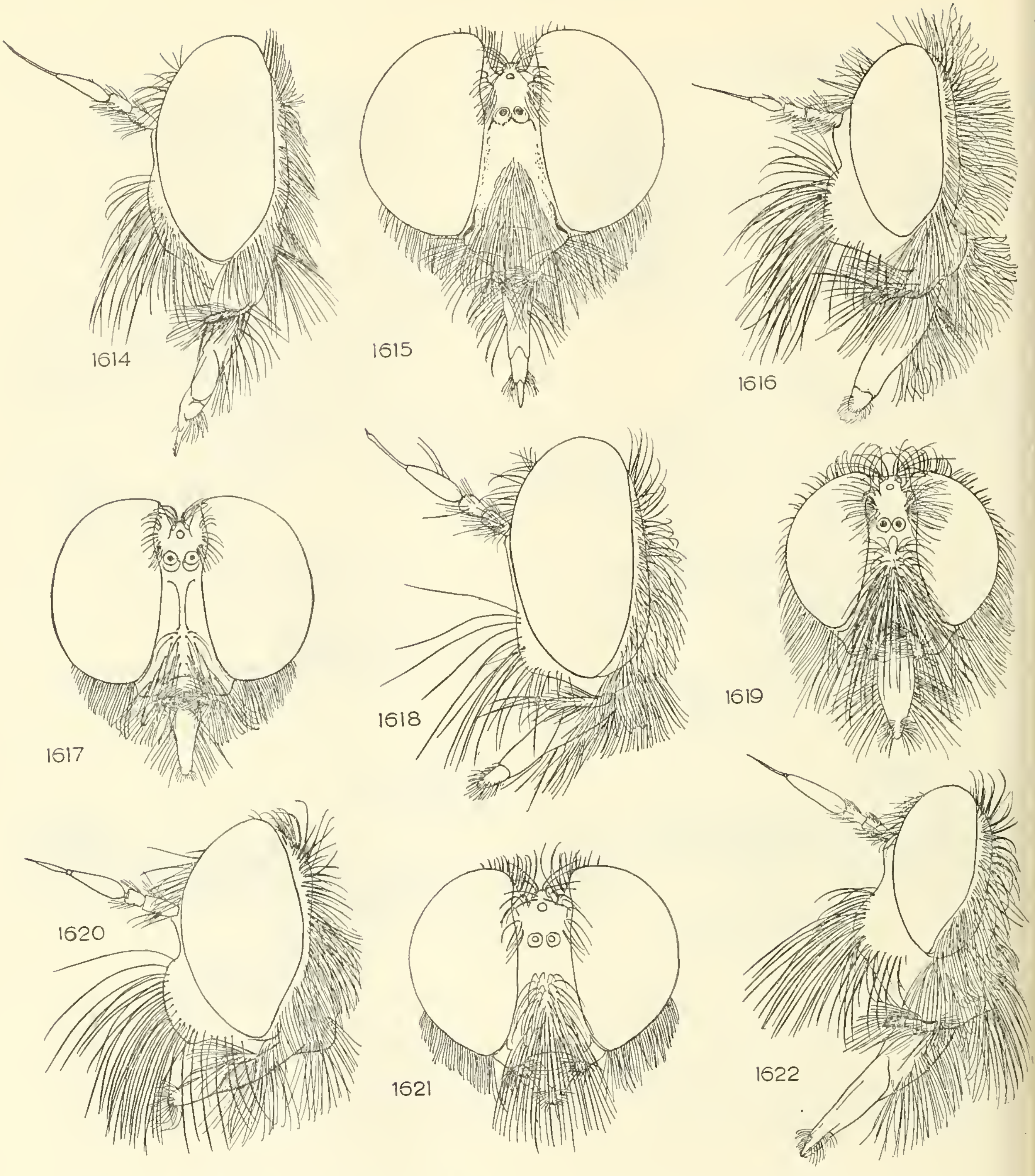
Figures 1596–1613.—1596, *Cryptopogon vernaculus* White. 1597, *Ctenota molitrix* Loew. 1598, *Lagodias laticornis* Loew. 1599, *Chrysopogon* sp. 1600, *Cyanonedys* sp. 1601, *Cyanonedys lugubris* Hermann. 1602, *Acrochordomerus aeneus* Hermann. 1603, *Pararatus macrostylus* Loew. 1604, *Lecania genitalis* Bromley. 1605, *Dysclytus firmatus* Walker. 1606, *Systropalpus aurivulpes*, new species. 1607, *Enigmomorpheus paradoxus* Hermann. 1608, *Dassylina fulvithorax* Bromley, 1609, *Hyperechia* sp. 1610, *Smeringolaphria* sp. 1611, *Brachyrrhopala* sp. 1612, *Pseudoryclus bicolor* Bellardi. 1613, *Rachiopogon grantii* Newman.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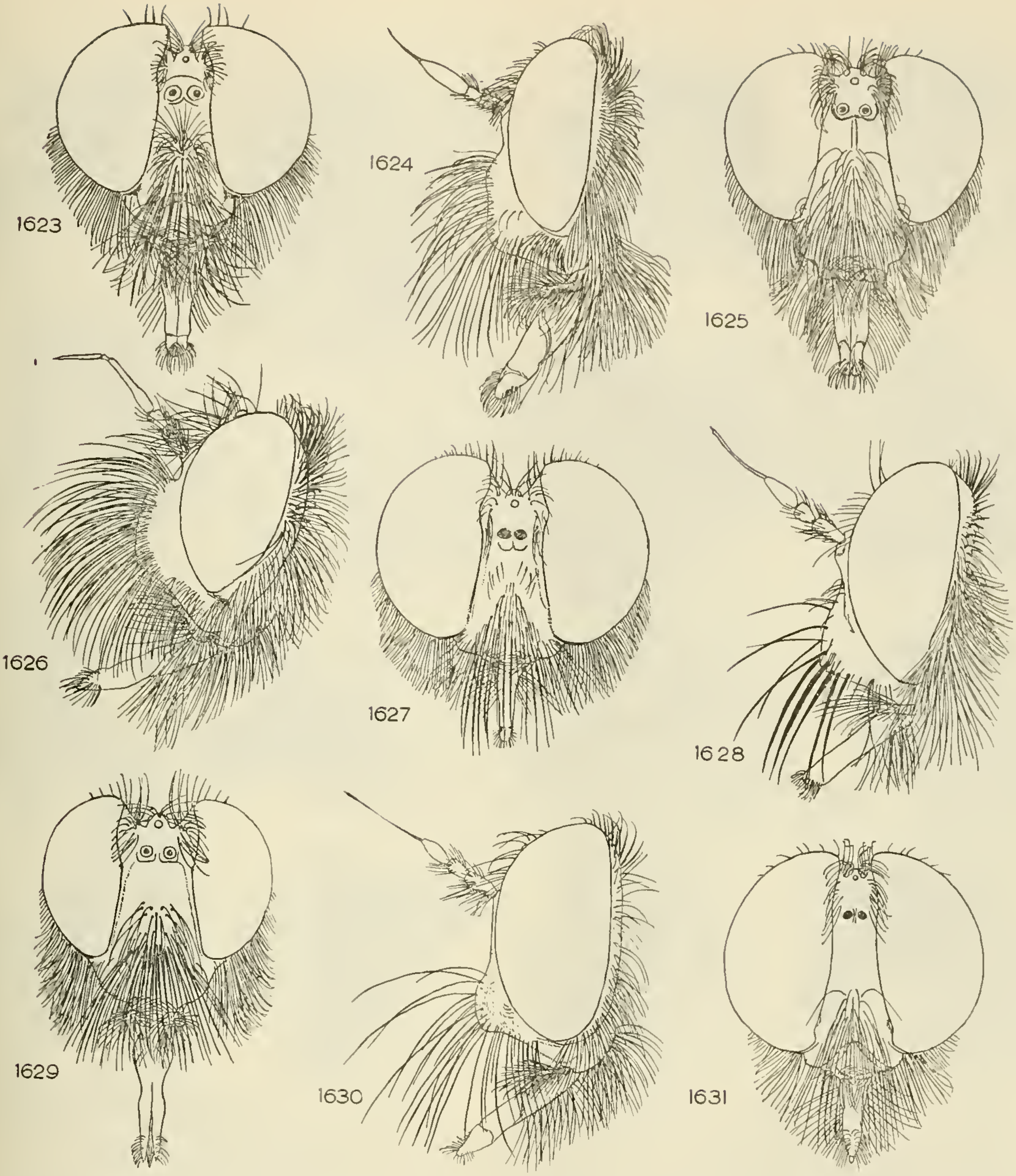
FIGURES 1614–1622.—1614, *Astochia griseus* Wiedemann. 1615, *Astochia griseus* Wiedemann. 1616, *Neoaratus hercules* Wiedemann. 1617, *Anarmostus iopterus* Wiedemann. 1618, *Anarmostus iopterus* Wiedemann. 1619, *Pamponerus germanicus* Linné. 1620, *Rhadiurgus variabilis* Zetterstedt. 1621, *Rhadiurgus variabilis*. 1622, *Asilus crabroniformis* Linné.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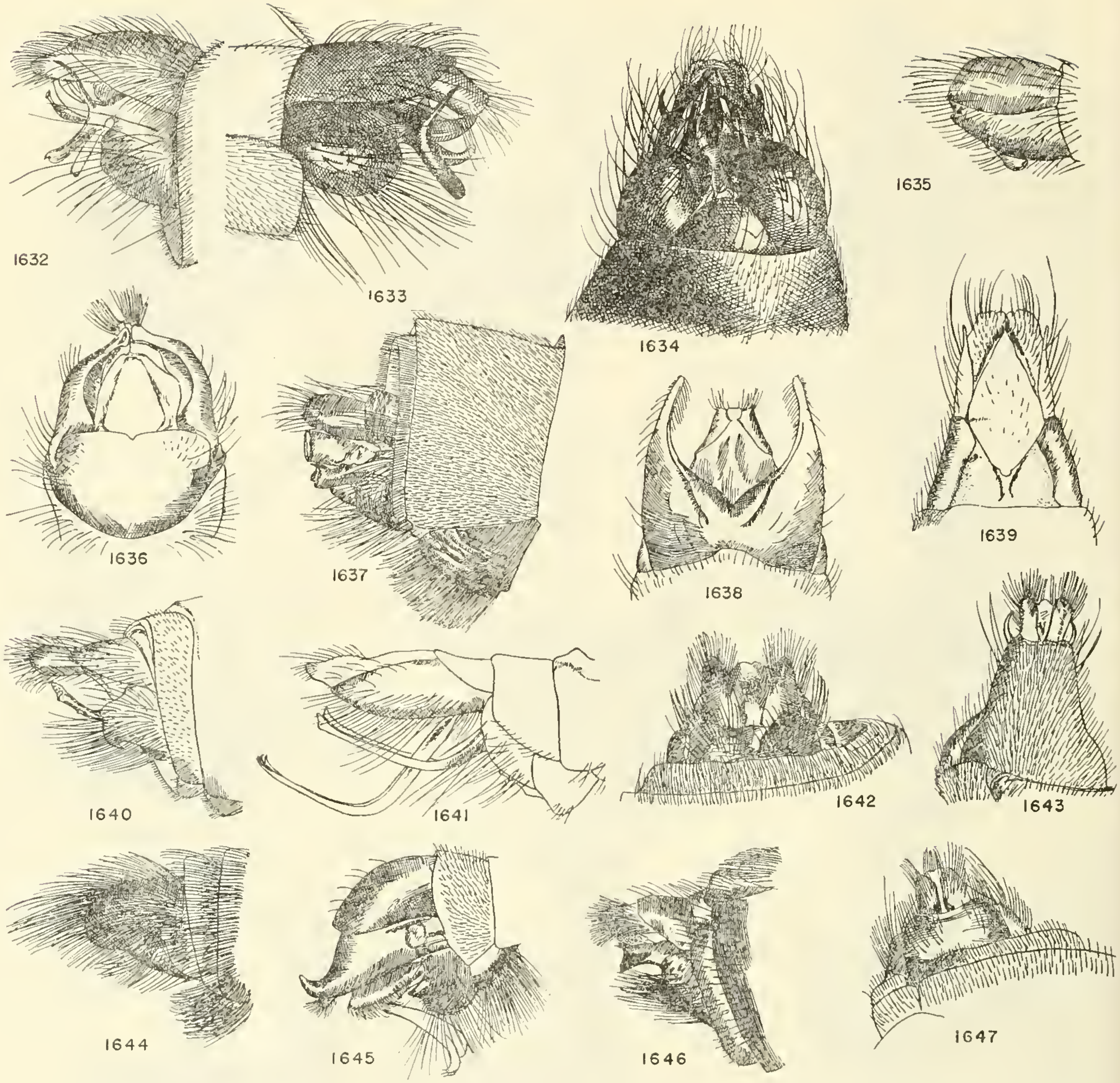
FIGURES 1623–1631.—1623, *Neoaratus hercules* Wiedemann. 1624, *Pararatus macrostylus* Loew. 1625, *Pararatus macrostylus* Loew. 1626, *Pamponerus germanicus* Linné. 1627, *Eicherax simplex* Macquart. 1628, *Eicherax simplex* Macquart. 1629, *Asilus crabroniformis* Linné. 1630, *Heligmoneura modesta* Bigot. 1631, *Heligmoneura modesta* Bigot.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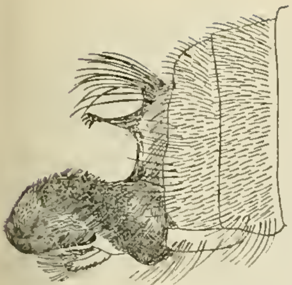
FIGURES 1632–1647.—Males. 1632, *Molobratia teutonus* Linné. 1633, *Dioctria oelandica* Linné. 1634, *Dioctria oelandica* Linné, ventral. 1635, *Psilozona albitarsis* Ricardo. 1636, *Damalina* sp. 1637, *Codula limbipennis* Macquart. 1638, *Haplopogon erinus* Pritchard. 1639, *Holcocephala abdominalis* Say. 1640, *Chrysopogon crabroniformis* Roeder. 1641, *Holcocephala abdominalis* Say. 1642, *Codula limbipennis* Macquart. 1643, *Molobratia teutonus* Linné. 1644, *Phellus glaucus* Walker. 1645, *Damalina* sp. 1646, *Opseostlengis insignis* White. 1647, *Opseostlengis insignis* White.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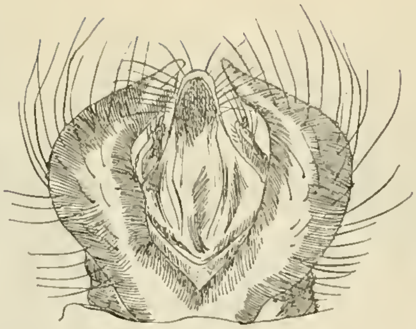
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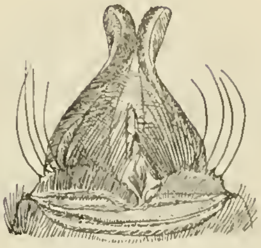
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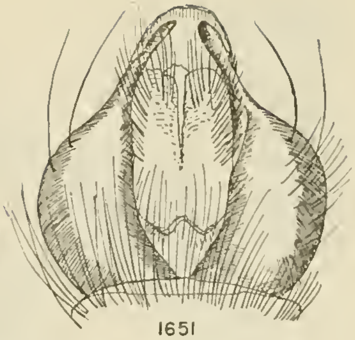
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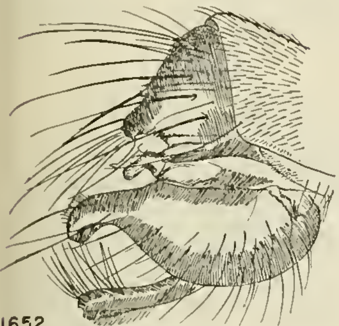
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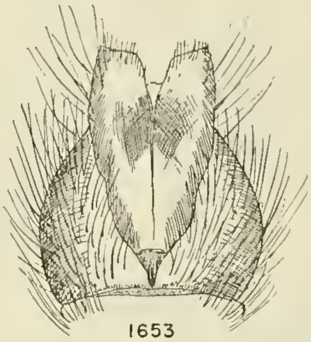
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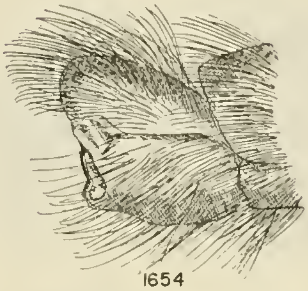
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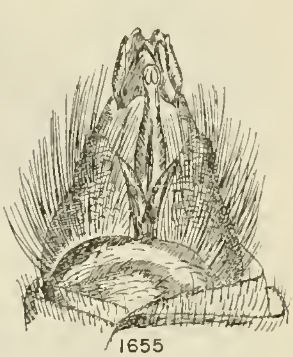
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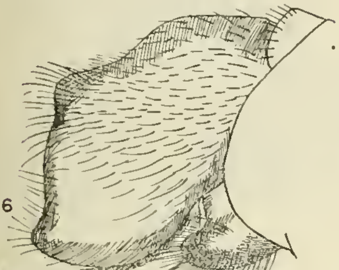
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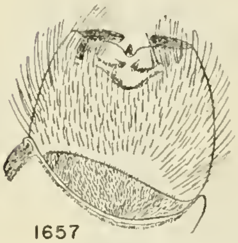
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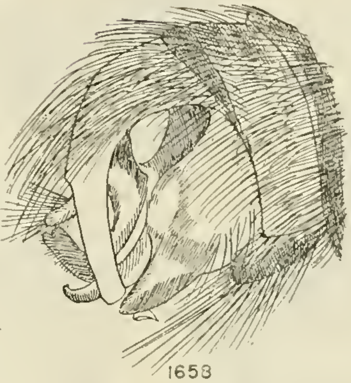
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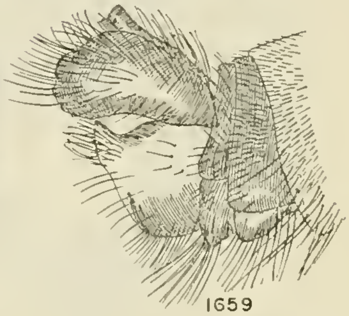
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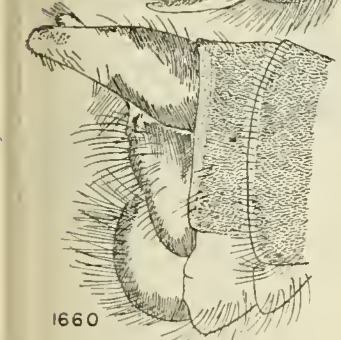
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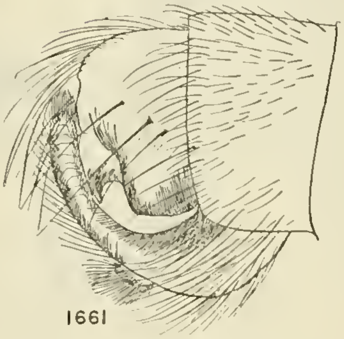
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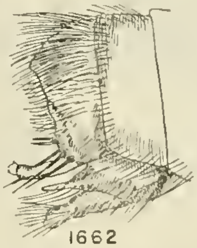
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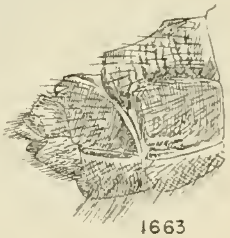
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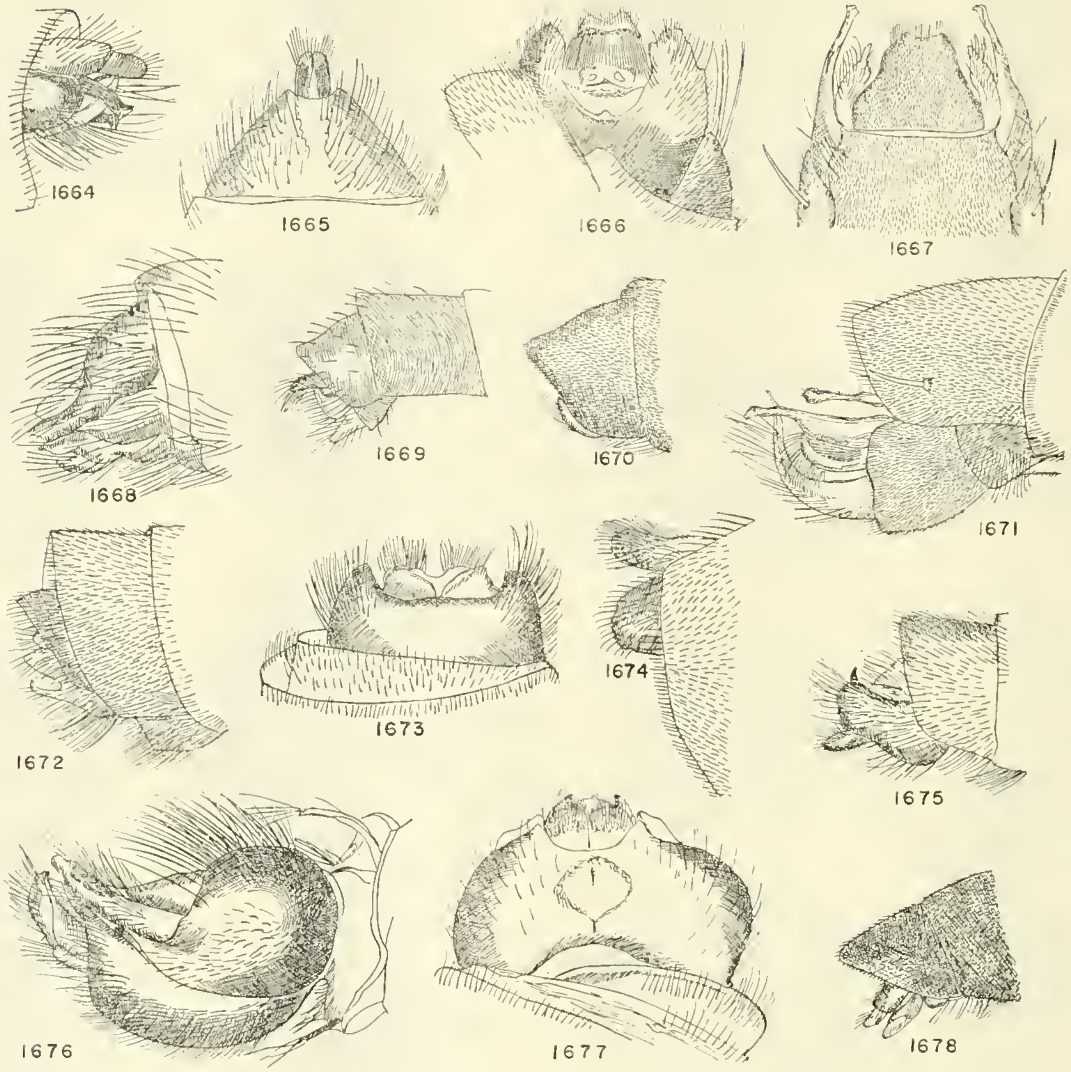
Figures 1648–1663.—Males, except as noted. 1648, *Damalis femoralis* Ricardo. 1649, *Damalis* sp., true dorsal aspect. 1650, *Damalis femoralis* Ricardo, true dorsal aspect. 1651, *Aplestobroma avida* Hull. 1652, *Damalis* sp. 1653, *Broticosia*, new species. 1654, *Obelophorus landbecki* Philippi. 1655, *Chrysopogon albopunctatus* Macquart. 1656, *Orrhodops americanus* Curran. 1657, *Orrhodops americanus* Curran. 1658, *Dicolonus simplex* Loew. 1659, *Pritchardia hirtipes* Macquart. 1660, *Haplopogon erinus* Pritchard. 1661, *Protodamalis elongatus*, new species. 1662, *Aireina paradoxa* Frey. 1663, *Paroxynoton tigrinum* Janssens, female.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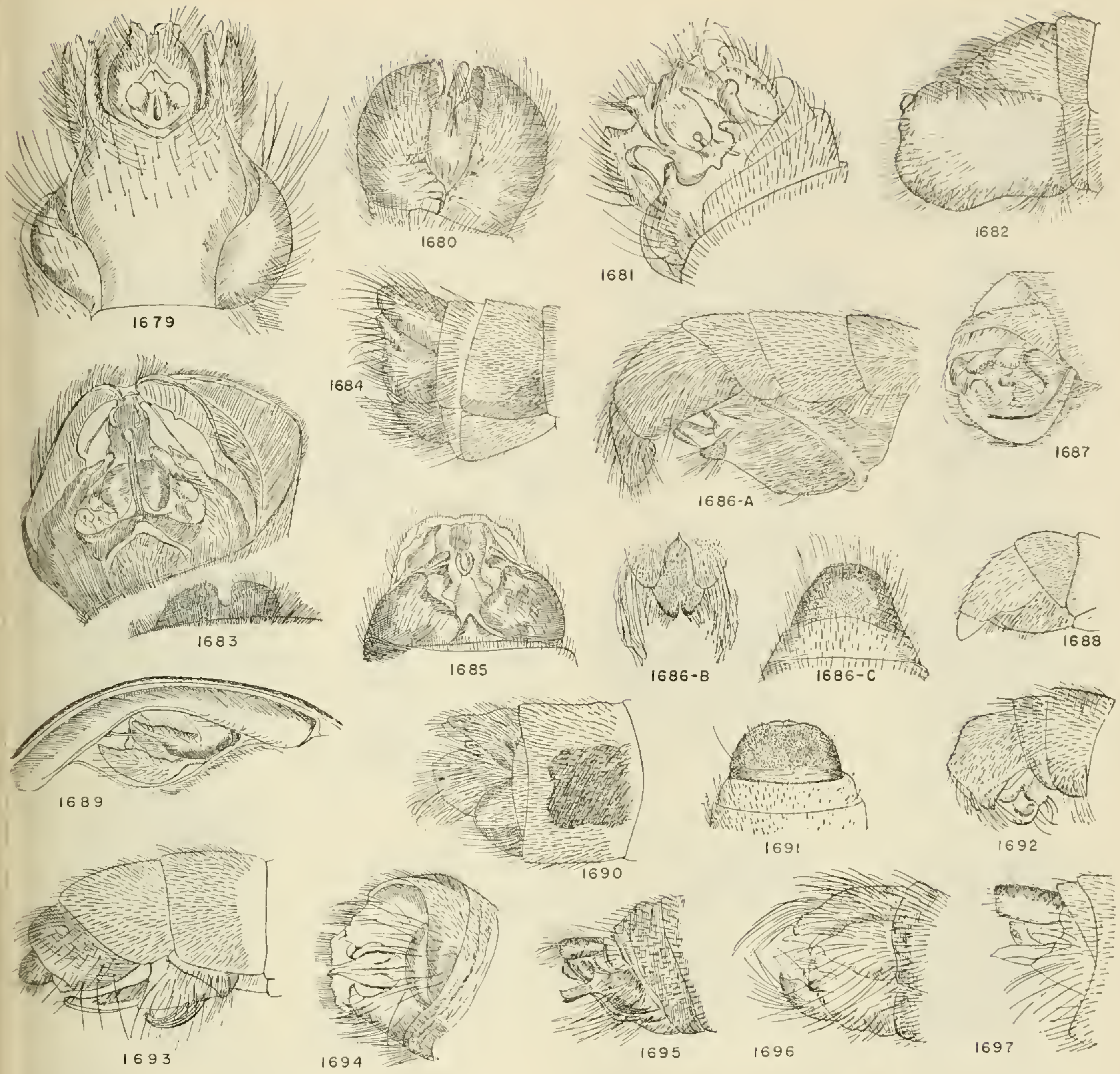
FIGURES 1664–1678.—Males. 1664, *Codula vespiformis* Thomson. 1665, *Townsendia pulcherrima* Back. 1666, *Perasis sareptana* Hermann. 1667, *Psilocurus nudiusculis* Loew. 1668, *Oxynoton francoisi* Janssens. 1669, *Othoniomyia triangularis* Hermann. 1670, *Triclioscelis burmeisteri* Roeder. 1671, *Psilocurus nudiusculis* Loew. 1672, *Hoplotriclis pallasii* Wiedemann. 1673, *Bohartia bromleyi* Hull. 1674, *Perasis sareptana* Hermann. 1675, *Triclis olivaceus* Loew. 1676, *Helolaphyctis chrysorhoea* Hull. 1677, *Myelaphus melas* Bigot. 1678, *Gerrolasius meridionalis* Hermann.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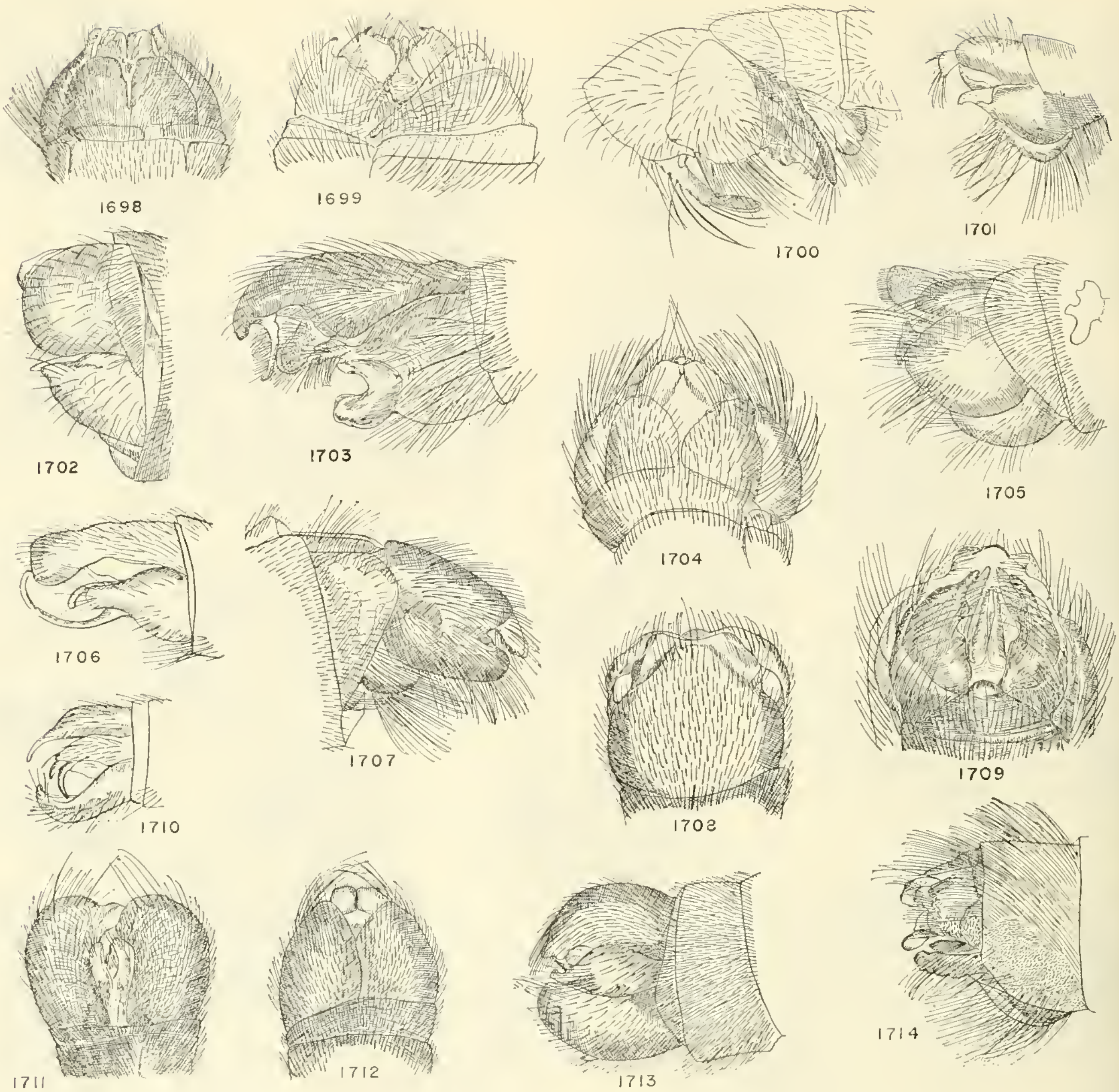
FIGURES 1679–1697.—1679, *Apoxyria apicata* Schiner (Hermann coll.). 1680, *Lasiopogon aldrichii* Melander. 1681, *Bohartia bromleyi* Hull. 1682, *Lasiopogon aldrichii* Melander. 1683, *Triclioscelis perfecta* Curran, ventral and dorsal. 1684, *Willistonina bilineata* Williston. 1685, *Paraterpogon punctatus* Paramonov, in litt. 1686, *Clinopogon* sp. 1687, *Hoplotriclis pallasii* Wiedemann. 1688, *Rhadinus ungulinus* Loew. 1689, *Triclioscelis burmeisteri* Roeder. 1690, *Neodioctria australis* Ricardo. 1691, *Stichopogon* (*Cryptopogon*) *vernaculus* White. 1692, *Stichopogon* (*Cryptopogon*) *vernaculus* White. 1693, *Townsendia pulcherrima* Back. 1694, *Taracticus octopunctatus* Say, ventral. 1695, *Cabaza pulchella* Macquart. 1696, *Dicranus jaliscoensis* Williston. 1697, *Neosaropogon princeps* Macquart.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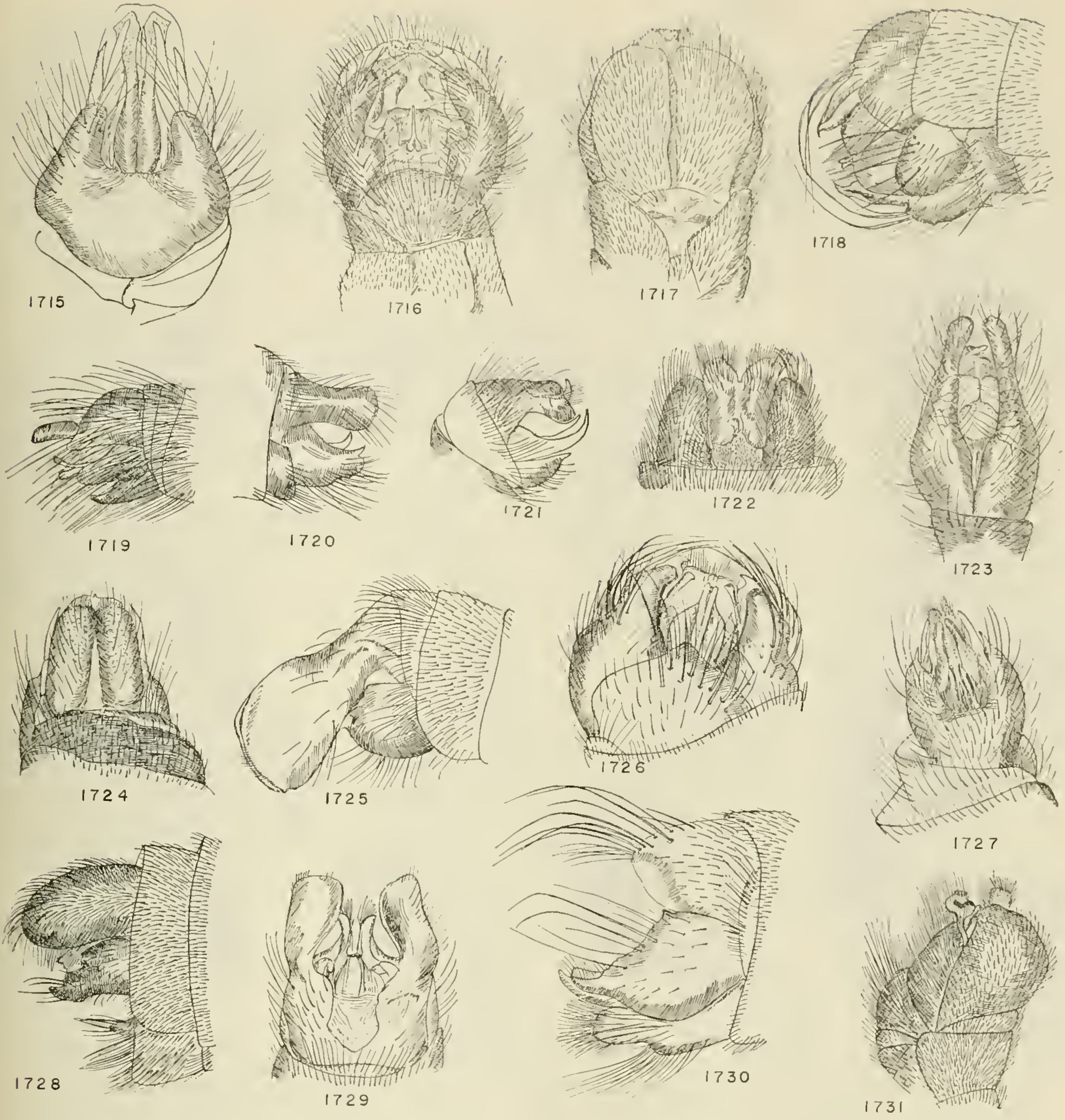
Figures 1698–1714.—1698, *Callinicus calcaneus* Loew. 1699, *Hodophylax basingeri* Pritchard. 1700, *Annamyia maren* Pritchard. 1701, *Oldroydia hamata* Hull. 1702, *Macrocolus* sp. 1703, *Bathypogon* sp. 1704, *Stizochymus salinator* Walker. 1705, *Stizochymus salinator* Walker. 1706, *Neocyrtopogon bifasciatus* Ricardo. 1707, *Aczelia infumatus* Lynch Arribálzaga. 1708, *Neoscleropogon elongatus* Macquart. 1709, *Questopogon clarkii* Dakin and Fordham, ventral. 1710, *Gonioscelis ventralis* Schiner. 1711, *Neoscleropogon elongatus* Macquart. 1712, *Chylophaga australis* Ricardo. 1713, *Neoscleropogon elongatus* Macquart. 1714, *Questopogon clarkii* Dakin and Fordham.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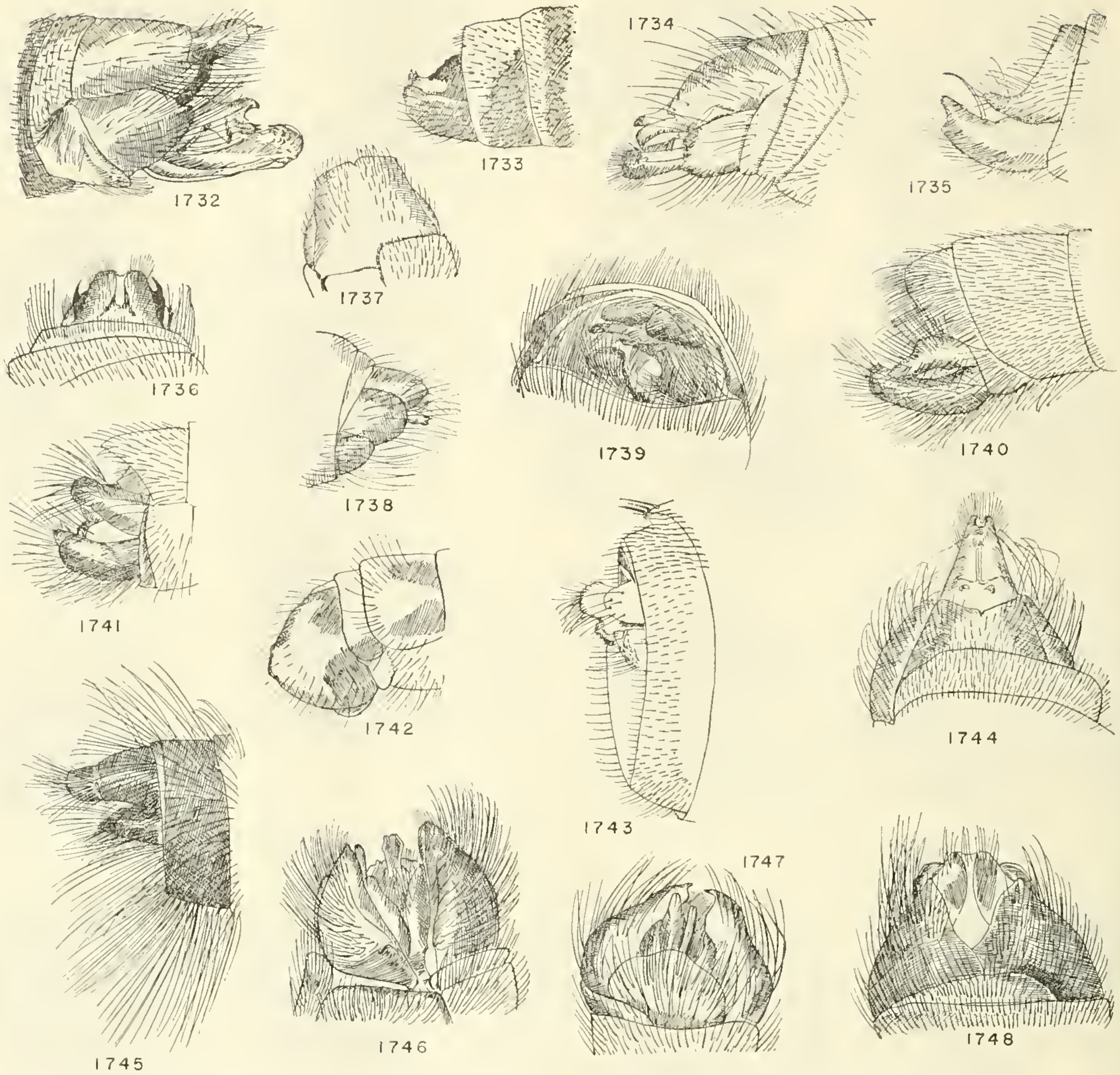
FIGURES 1715–1731.—1715, *Cabaza* sp., ventral. 1716, *Aczelia infumatus* Lynch Arribálzaga, ventral. 1717, *Aczelia infumatus* Lynch Arribálzaga. 1718, *Caenarolia argyrocinctus* Schiner. 1719, *Jothopogon leucomallus* Loew. 1720, *Teratopus cyaneus* Fabricius. 1721, *Crobilocerus megilliformis* Loew. 1722, *Ospriocerus abdominalis* Say. 1723, *Zabrotica* sp. 1724, *Cabaza* sp. 1725, *Aspidopyga cophuroides* Carrera. 1726, *Caenarolia argyrocinctus* Schiner, ventral. 1727, *Brachyrrhopala bella* White, ventral. 1728, *Ospriocerus abdominalis* Say. 1729, *Aspidopyga cophuroides* Carrera. 1730, *Caenarolia argyrocinctus* Schiner. 1731. *Chylophaga australis* Ricardo.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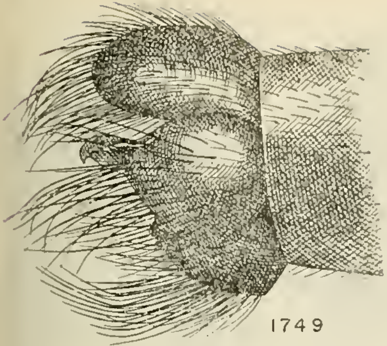
FIGURES 1732–1748.—1732, *Erythropogon ichneumoniformis* White. 1733, *Paraterpogon punctatus* Paramonov, in litt. 1734, *Brachyrrhopala bella* White. 1735, *Pegesimallus claelius* Walker. 1736, *Brachyrrhopala ruficornis* Macquart. 1737, *Paraterpogon punctatus* Paramonov, in litt. 1738, *Plesiomma leptogastrum* Loew. 1739, *Acnephalum* sp. 1740, *Sphageus chalcoproctus* Loew. 1741, *Ceraturgopsis oklahomensis* Bromley. 1742, *Aterpogon cyrtopogonoides* Hardy. 1743, *Parataracticus rubidus* Cole. 1744, *Austrosaropogon claviger* Hardy. 1745, *Comantella fallei* Back. 1746, *Dioctobroma flavoterminatus*, new species. 1747, *Allopogon vittatus* Wiedemann. 1748, *Thereutria amaracus* Walker.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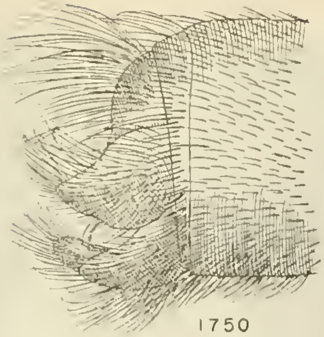
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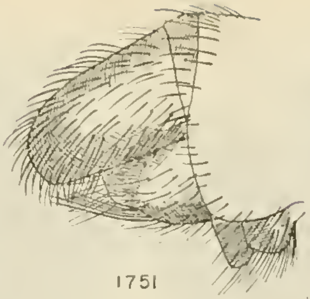
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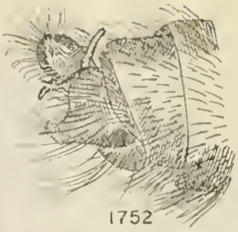
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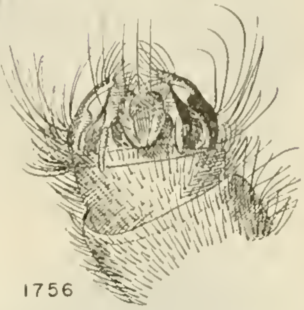
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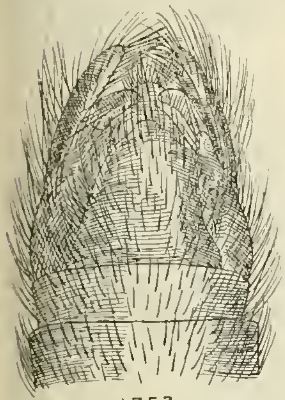
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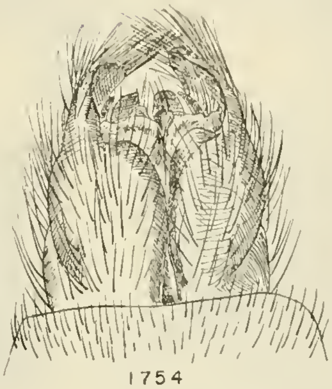
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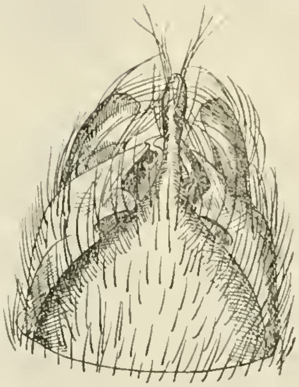
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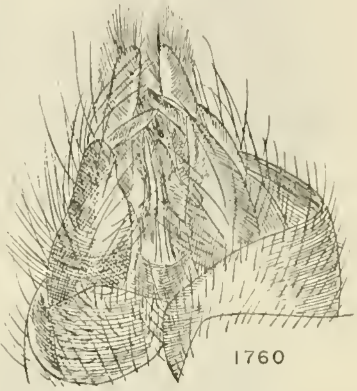
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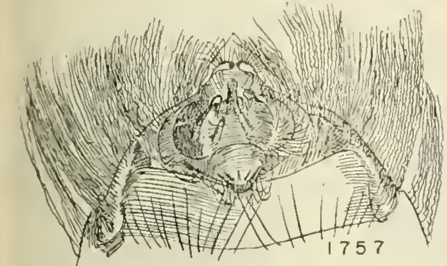
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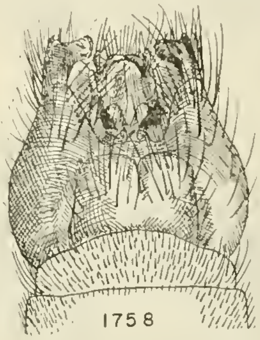
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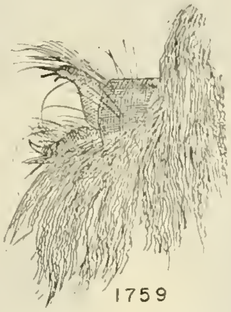
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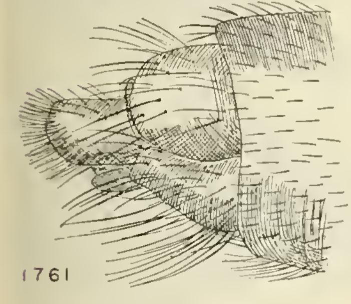
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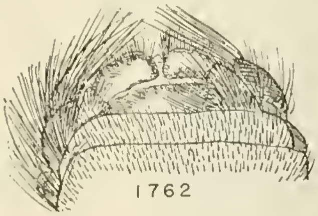
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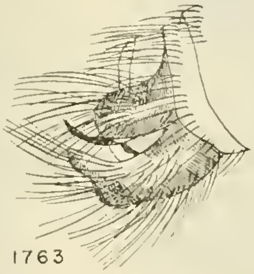
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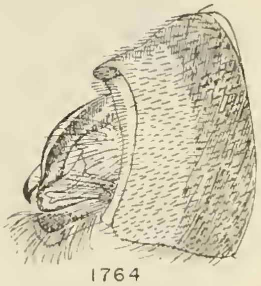
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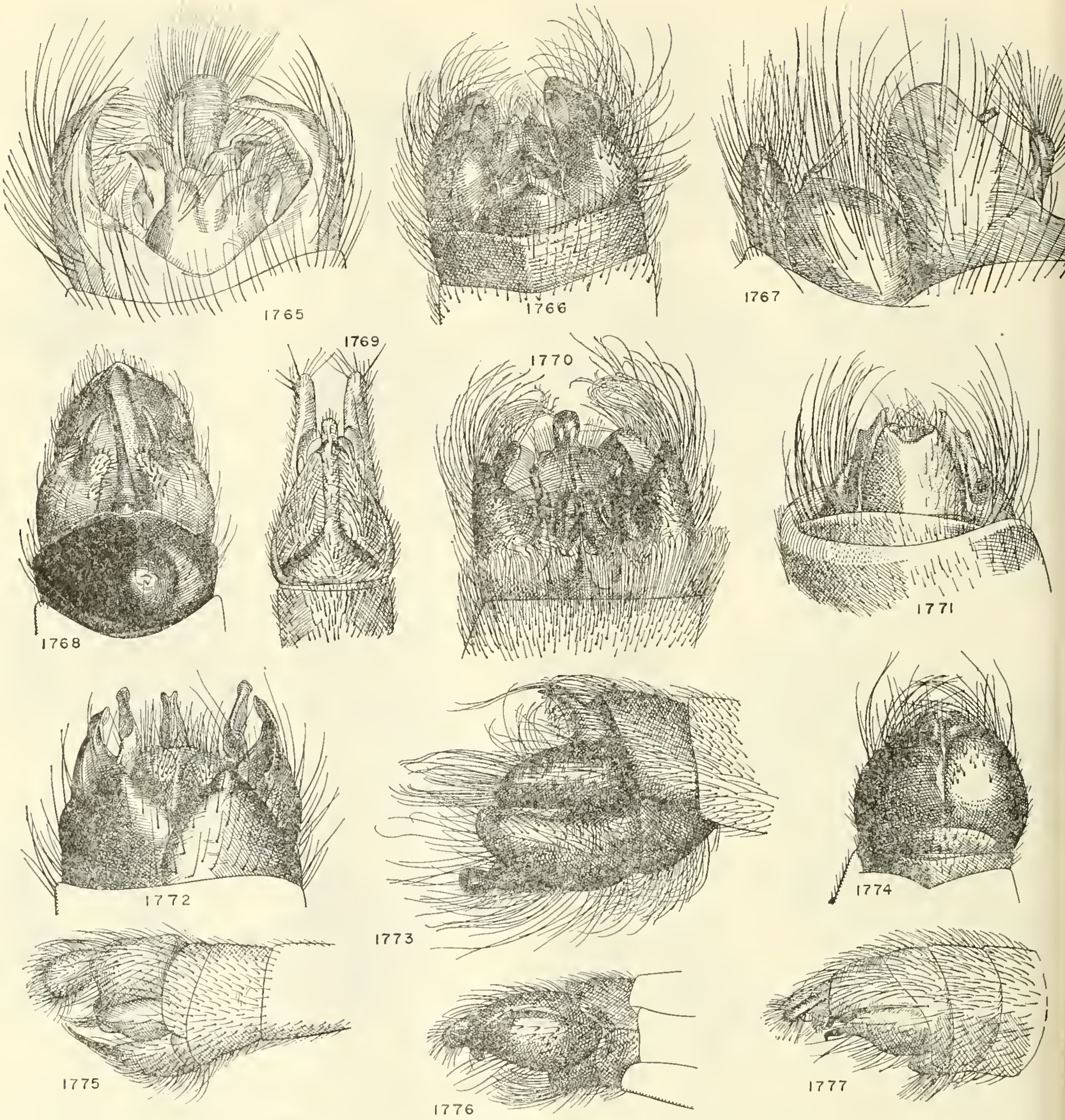
Figures 1749–1764.—1749, *Dasypogon diadema* Fabricius. 1750, *Callinicus calcaneus* Loew. 1751, *Rhacolaemus variabilis* Hermann. 1752, *Habropogon rubriventris* Macquart. 1753, *Microstylum* (*Epiblepharis*) *pedunculata* Bezzi, ventral. 1754, *Microstylum* (*Eclipsis*) *maculiventris* Bezzi. 1755, *Lycostomus albifacies* Hermann, ventral. 1756, *Habropogon rubriventris* Macquart, ventral. 1757, *Acnephalum quadratum* Wiedemann, ventral. 1758, *Aphamartania* sp., ventral. 1759, *Acnephalum quadratum* Wiedemann. 1760, *Austrosaropogon claviger* Hardy, ventral. 1761, *Austrosaropogon claviger* Hardy. 1762, *Araiopogon gayi* Macquart. 1763, *Prolepsis lucifer* Wiedemann. 1764, *Brachyrrhopala ruficornis* Macquart.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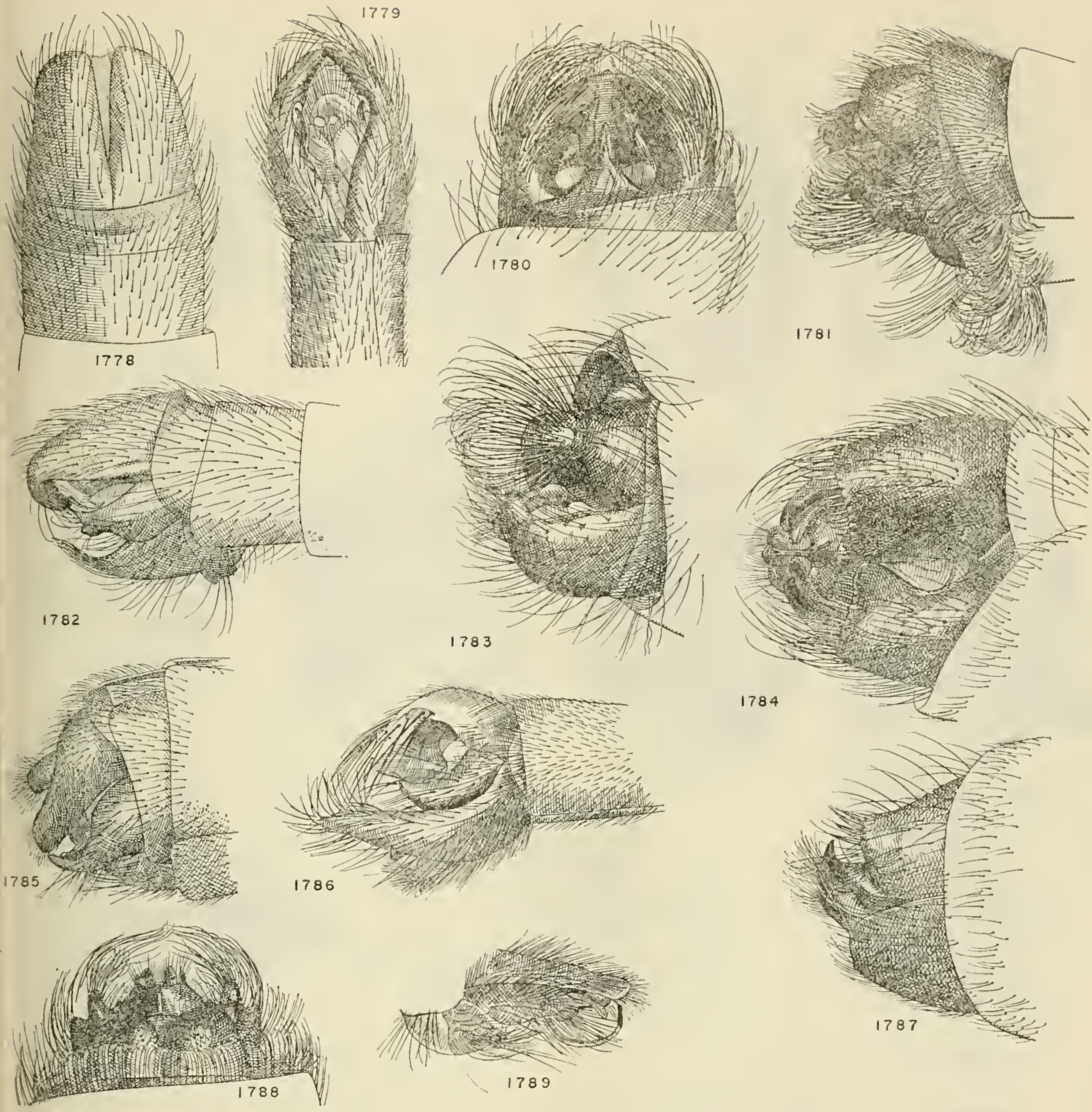
FIGURES 1765–1777.—1765, *Hystrichopogon hirticeps* Hermann, ventral. 1766, *Prolepsis lucifer* Wiedemann, ventral. 1767, *Hystrichopogon hirticeps* Hermann, lateral. 1768, *Neolaparus ophion* Speiser. 1769, *Zabrotica* sp. 1770, *Dizonias lucasi* Bellardi, ventral. 1771, *Neosaropogon princeps* Macquart. 1772, *Plesiomma caedens* Wiedemann. 1773, *Dizonias lucasi* Bellardi. 1774, *Saropogon leucocephalus* Meigen. 1775, *Stenopogon sabaudus* Fabricius. 1776, *Metalaphria aurifacies* White. 1777, *Habropogon rubriventris* Macquart.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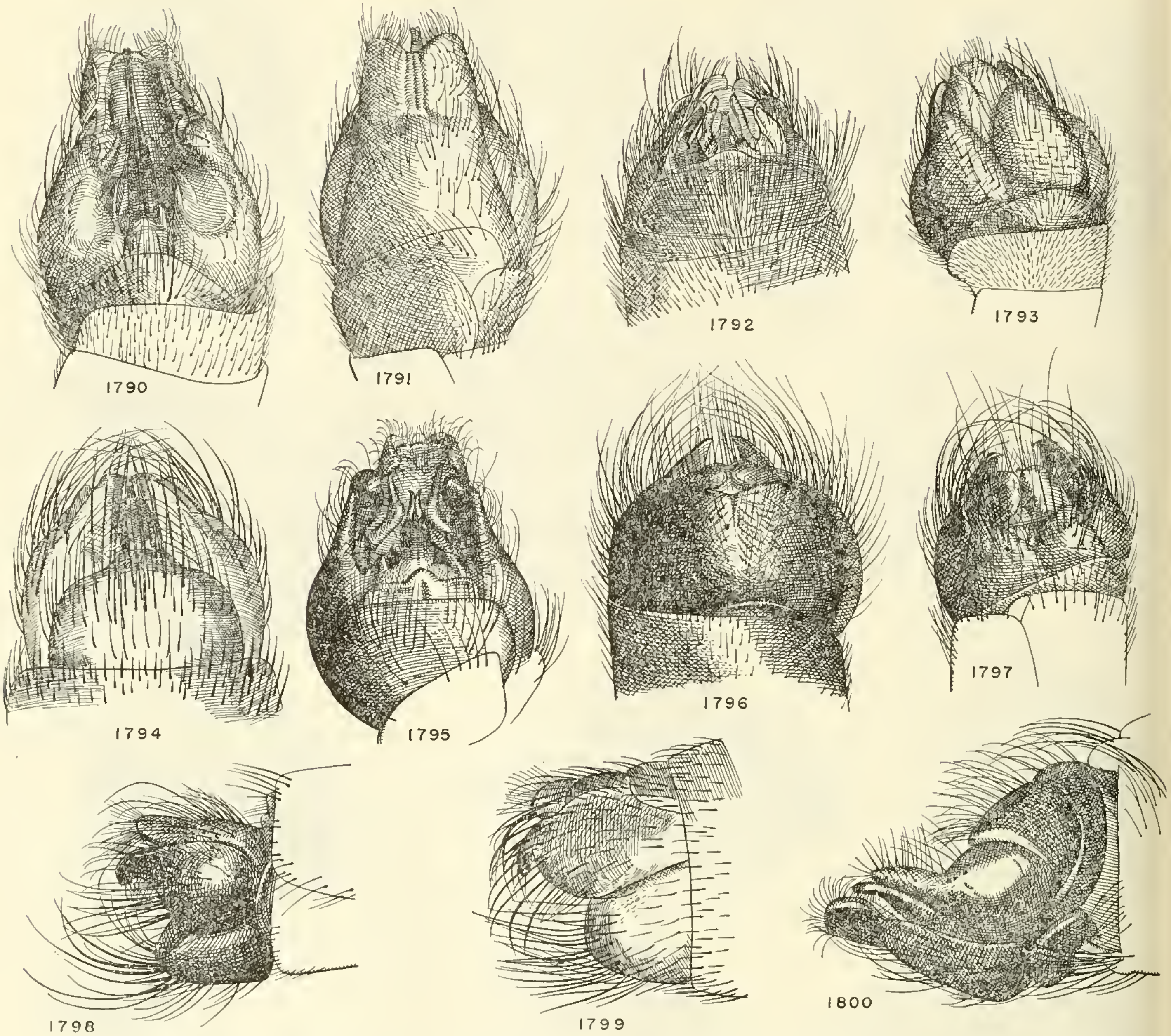
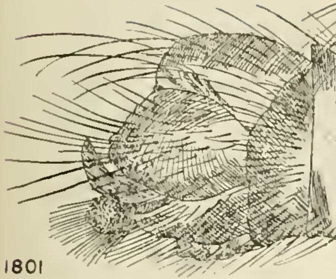
FIGURES 1778–1789.—1778, *Gonioscelis maculipennis* Engel. 1779, *Microstylum venosum* Wiedemann. 1780, *Ceraturgopsis oklahomensis* Bromley, ventral. 1781, *Ceraturgus cruciatus* Say. 1782, *Gonioscelis maculipennis* Engel. 1783, *Ceraturgopsis oklahomensis* Bromley. 1784, *Trichardis* sp., ventral. 1785, *Ancylorrhynchus cruciger* Loew. 1786, *Microstylum venosum* Wiedemann. 1787, *Trichardis* sp. 1788, *Ceraturgus cruciatus* Say. 1789, *Harpagobroma fumosa*, new species.



FIGURES 1790–1800.—1790, *Neocyrtopogon bifasciatus* Ricardo, ventral. 1791, *Neocyrtopogon bifasciatus* Ricardo. 1792, *Callinicus calcaneus* Loew. 1793, *Metalaphria aurifacies* White. 1794, *Phonicocleptes busiris* Lynch Arribálzaga, ventral. 1795, *Ablautus squamipes* Cole, ventral. 1796, *Dasypogon diadema* Fabricius. 1797, *Diogmites crudelis* Bromley. 1798, *Diogmites crudelis* Bromley. 1799, *Phonicocleptes busiris* Lynch Arribálzaga. 1800, *Ablautus squamipes* Cole.



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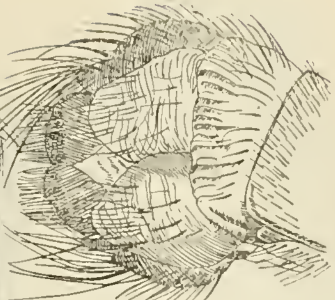

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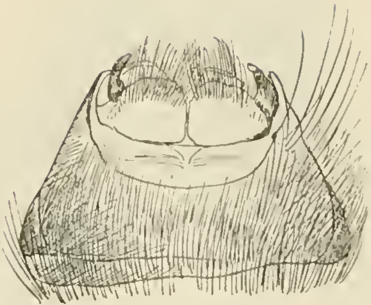

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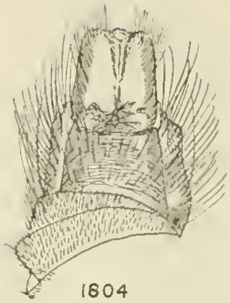

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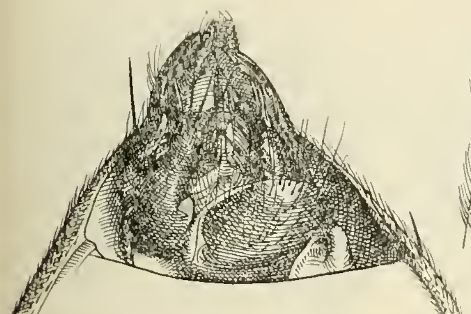

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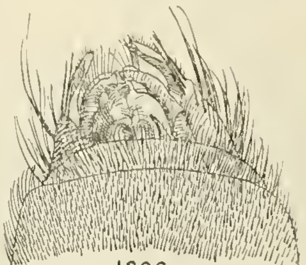

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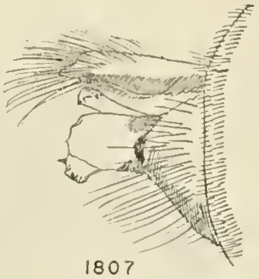

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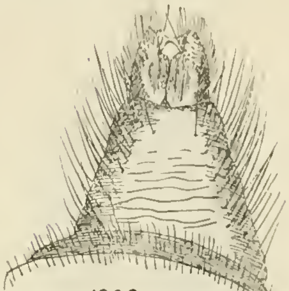

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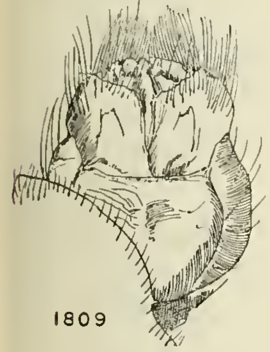

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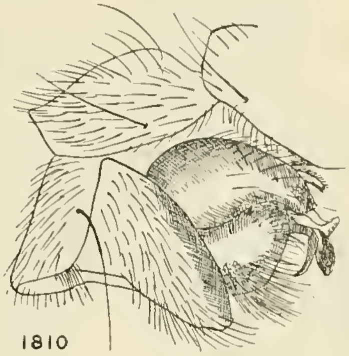

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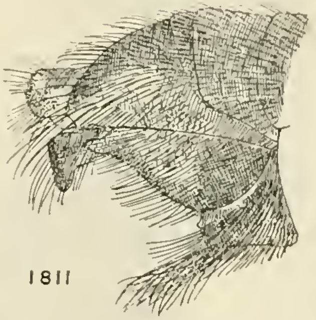

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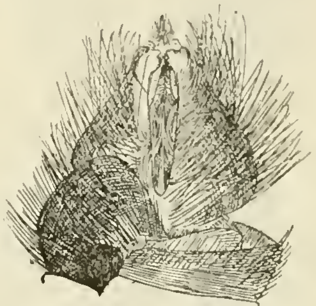

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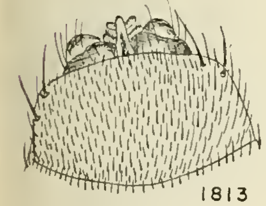

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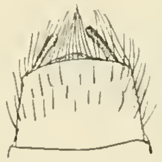

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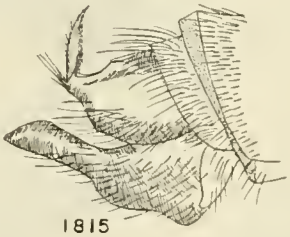

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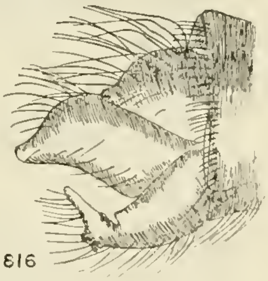

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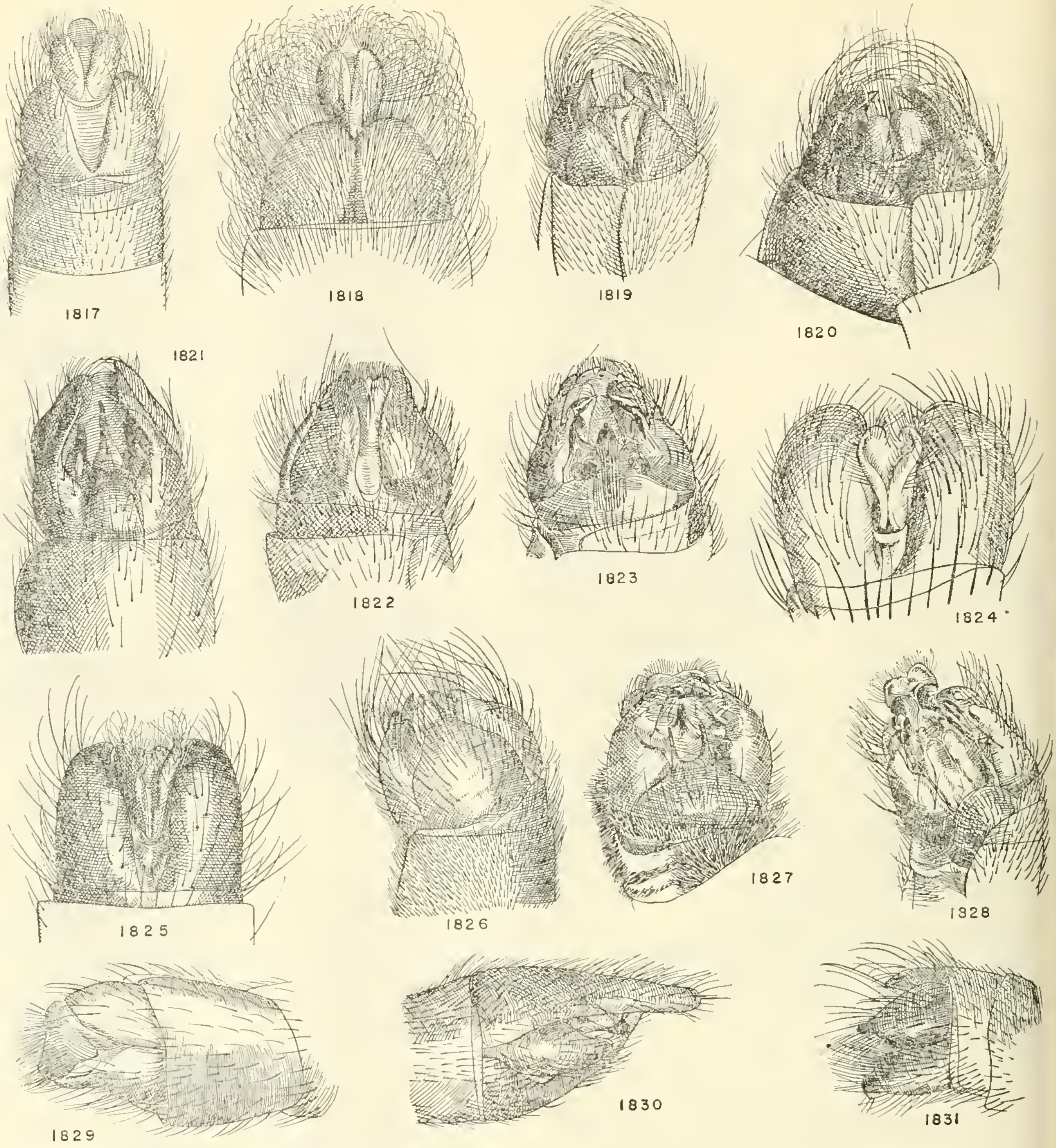
FIGURES 1801–1816.—Males, except as noted. 1801, *Dakinomyia froggattii* Dakin and Fordham. 1802, *Dakinomyia froggattii* Dakin and Fordham. 1803, *Dicolonus simplex* Loew, female. 1804, *Austrosaropogon* (*Daptolestes*) *nicholsoni*, new species. 1805, *Anypodetus fasciatus* Hermann, ventral. 1806, *Lamyra gulo* Loew, ventral. 1807, *Cerotaniops abdominalis* Brown, 1808, *Chrysopogon albopunctatus* Macquart. 1809, *Cerotainiops abdominalis* Brown. 1810, *Adelodus rufipes* Hermann. 1811, *Thereutria amaracus* Walker. 1812, *Hyperechia* sp. 1813, *Bromotheres* sp. 1814, *Othoniomyia triangularis* Hermann. 1815, *Stiphrolamyra rubicunda* Oldroyd. 1816, *Megapoda labiata* Fabricius.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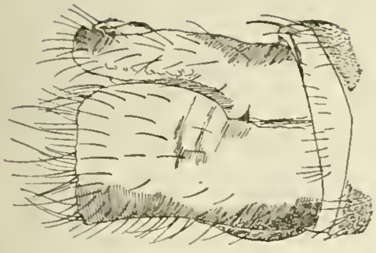
Figures 1817–1831.—1817, *Stenopogon sabaudus* Fabricius. 1818, *Clinopogon* sp. 1819, *Dicranus jaliscoensis* Williston. 1820, *Blepharepium coarctatum* Perty. 1821, *Mirolestes facialis* Curran. 1822, *Ancylorrhynchus glaucius* Rossi. 1823, *Ancylorrhynchus glaucius* Rossi, ventral. 1824, *Galactopogon hispidus* Engel. 1825, *Teratopus cyaneus* Fabricius. 1826, *Archilestris magnificus* Walker, ventral. 1827, *Cyrtopogon ruficornis* Fabricius, ventral. 1828, *Habropogon rubriventris* Macquart. 1829, *Mirolestes facialis* Curran. 1830, *Alyssomyia brevicornis* Philippi. 1831, *Cophura sodalis* Osten Sacken.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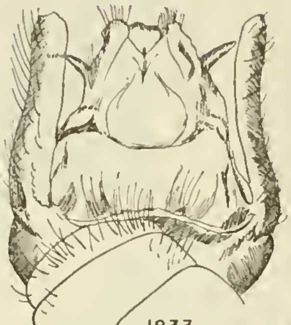
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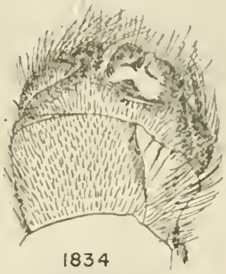
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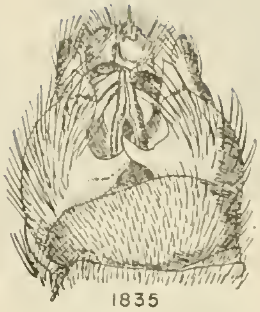
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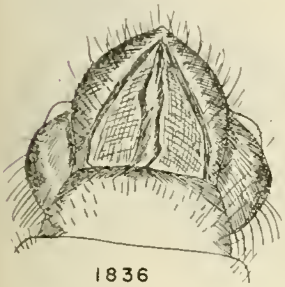
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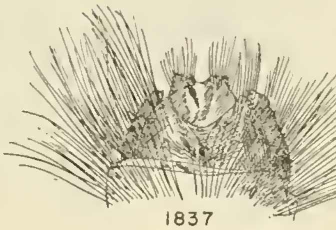
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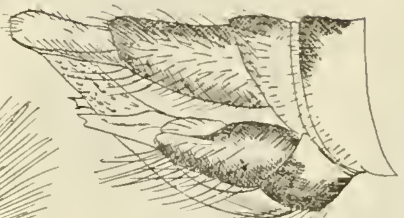
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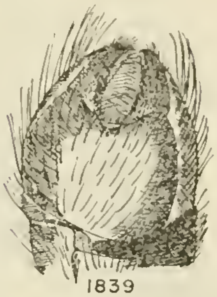
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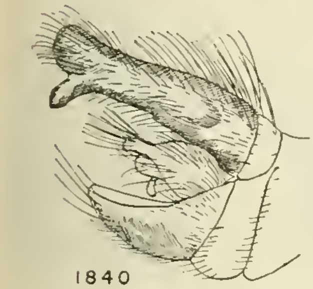
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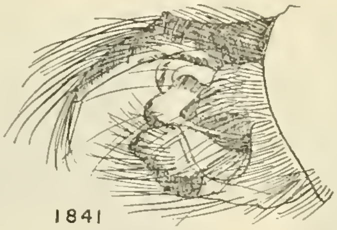
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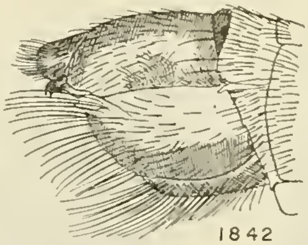
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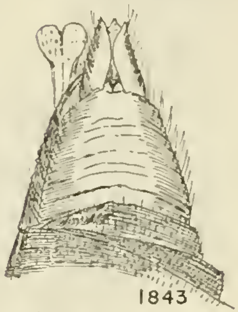
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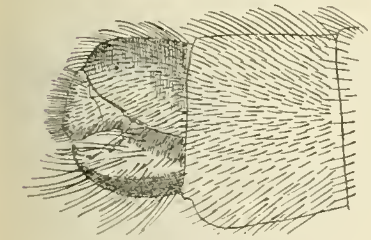
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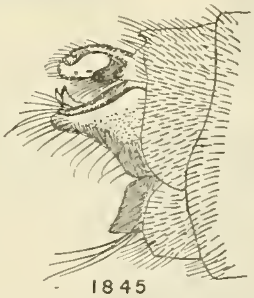
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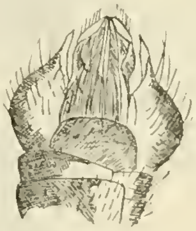
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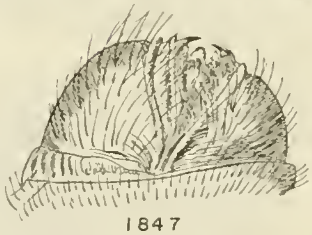
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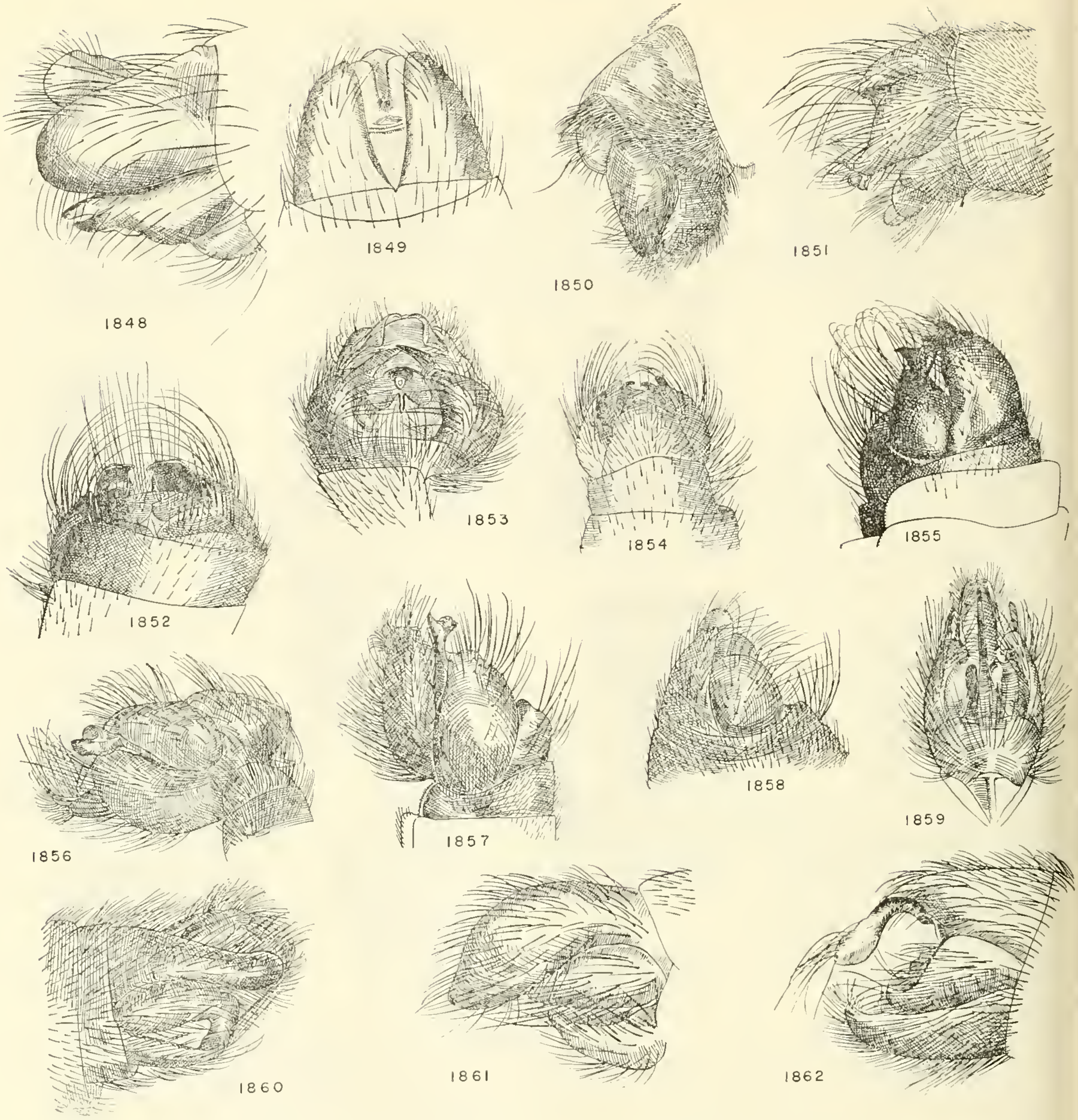
Figures 1832–1847.—1832, *Itolia maculata* Wilcox. 1833, *Itolia maculata* Wilcox. 1834, *Neodioctria australis* Ricardo. 1835, *Neodioctria australis* Ricardo, ventral. 1836, *Annamyia maren* Pritchard. 1837, *Comantella fallei* Back. 1838, *Rachiopogon grantii* Newmann. 1839, *Deromyia* sp. 1840, *Hypenetes* sp. 1841, *Daspletis vulpes* Loew. 1842, *Lestomyia sabulonum* Osten Sacken. 1843, *Erythropogon ichneumoniformis* White. 1844, *Deromyia* sp. 1845, *Coleomyia setigerum* Cole. 1846, *Metalaphria aurifacies* White. 1847, *Macrocolus* sp.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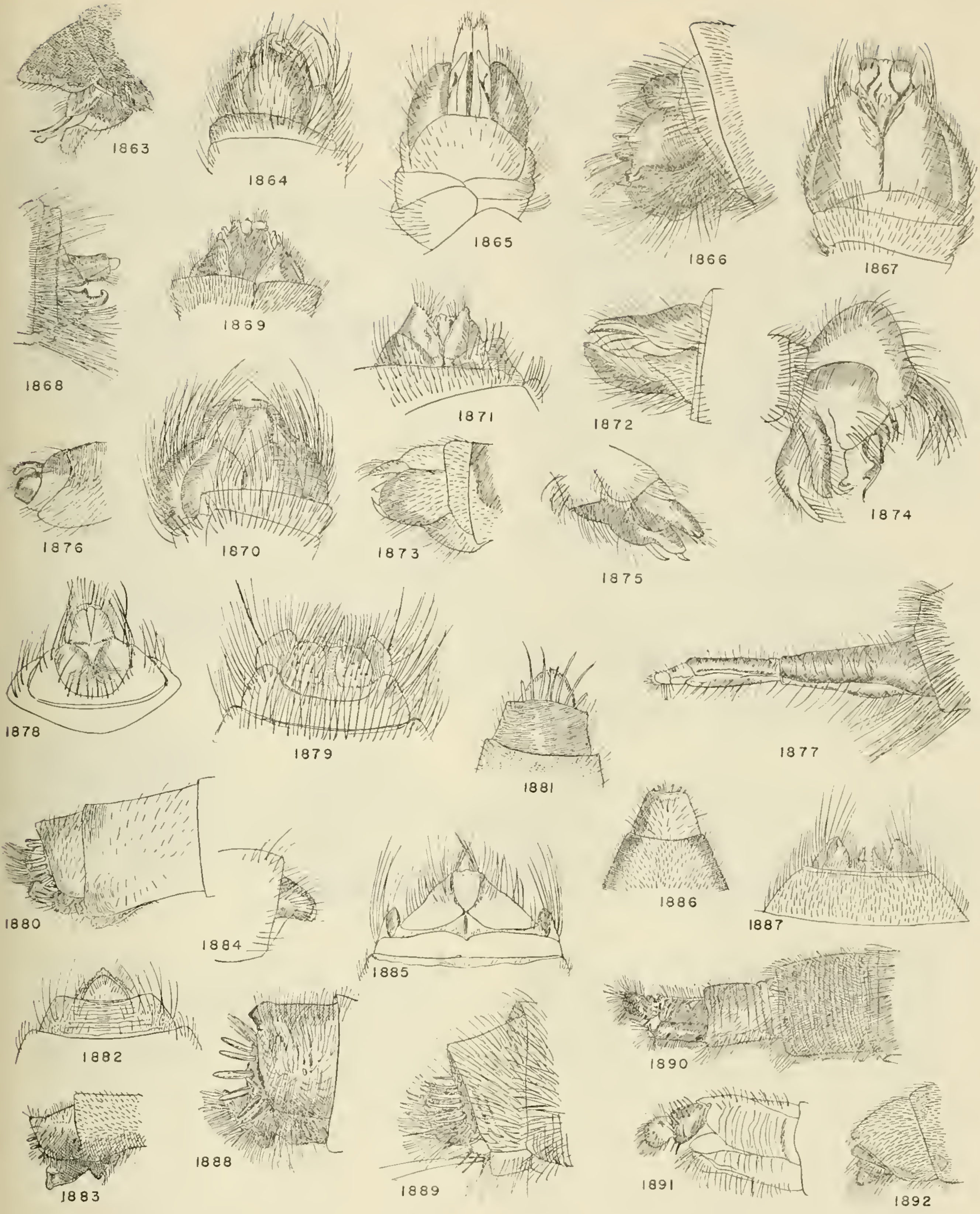
Figures 1848–1862.—1848, *Galactopogon hispidus* Engel. 1849, *Rhacolaemus variabilis* Hermann. 1850, *Cyrtopogon ruficornis* Fabricius. 1851, *Archilestris magnificus* Walker. 1852, *Apothechyla carbo* Walker. 1853, *Araiopogon gayi* Macquart. 1854, *Cophura sodalis* Osten Sacken. 1855, *Saropogon leucocephalus* Meigen. 1856, *Apharmartania frauenfeldi* Schiner. 1857, *Aphamartania* sp. 1858, *Araiopogon gayi* Macquart, lateral. 1859, *Harpagobroma fumosa*, new species. 1860, *Microstylum* (*Epiblepharis*) *pedunculata* Bezzi. 1861, *Microstylum* (*Eclipsis*) *maculiventris* Bezzi. 1862, *Lycostomus albifacies* Hermann.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Figures 1863–1892.—1863, *Scytomedes haemorrhoidalis* Fabricius. 1864, *Allopogon vittatus* Wiedemann. 1865, *Brachyrrhopala bella* White. 1866, *Dioctobroma flavoterminatus*, new species. 1867, *Lestomyia sabulonum* Osten Saken. 1868, *Anarolius jubatus* Loew. 1869, *Coleomyia* sp. 1870, *Allopogon vittatus* Wiedemann. 1871, *Parataracticus rubidus* Cole. 1872, *Spanurus tellinii* Bezzi.

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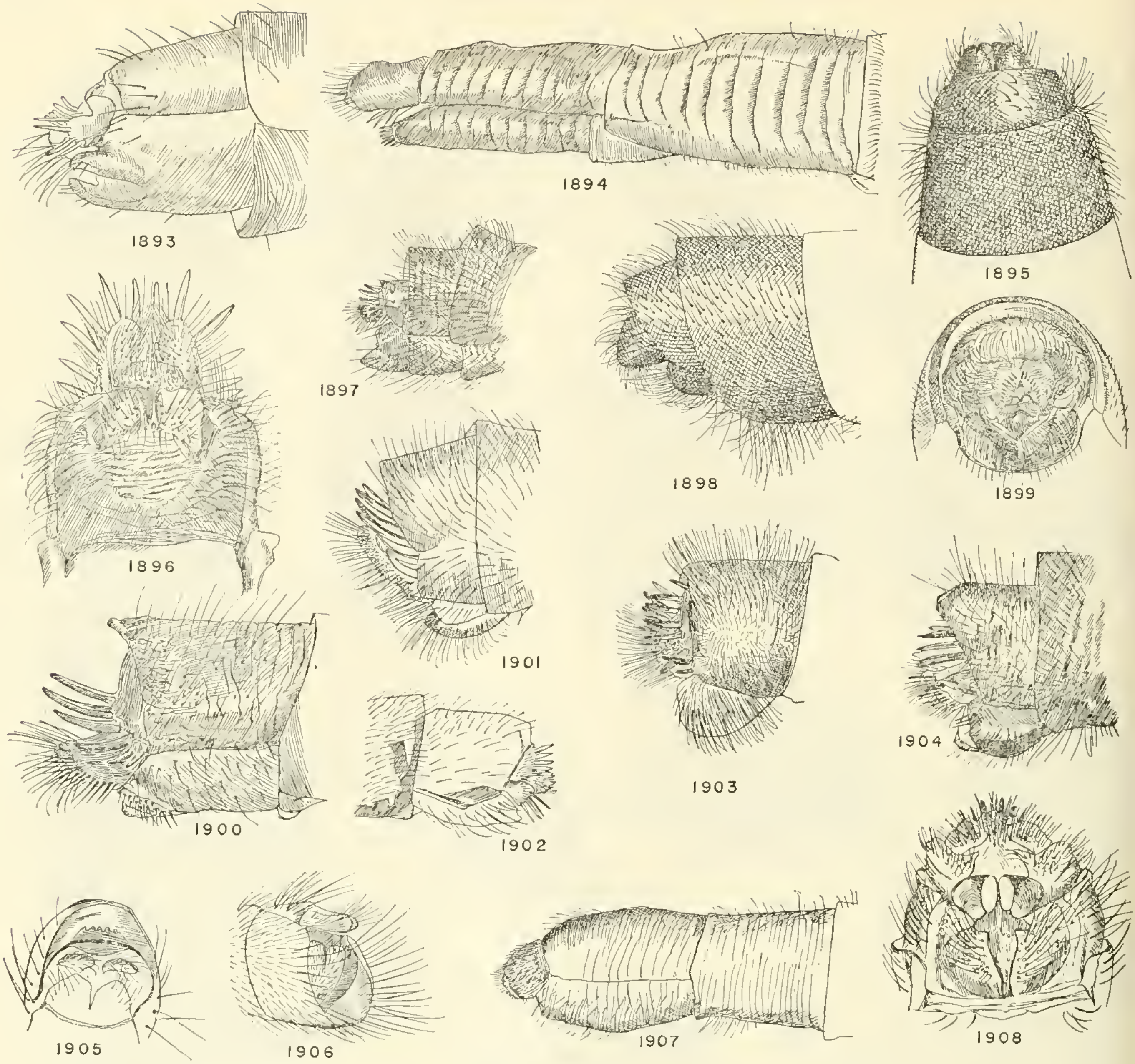
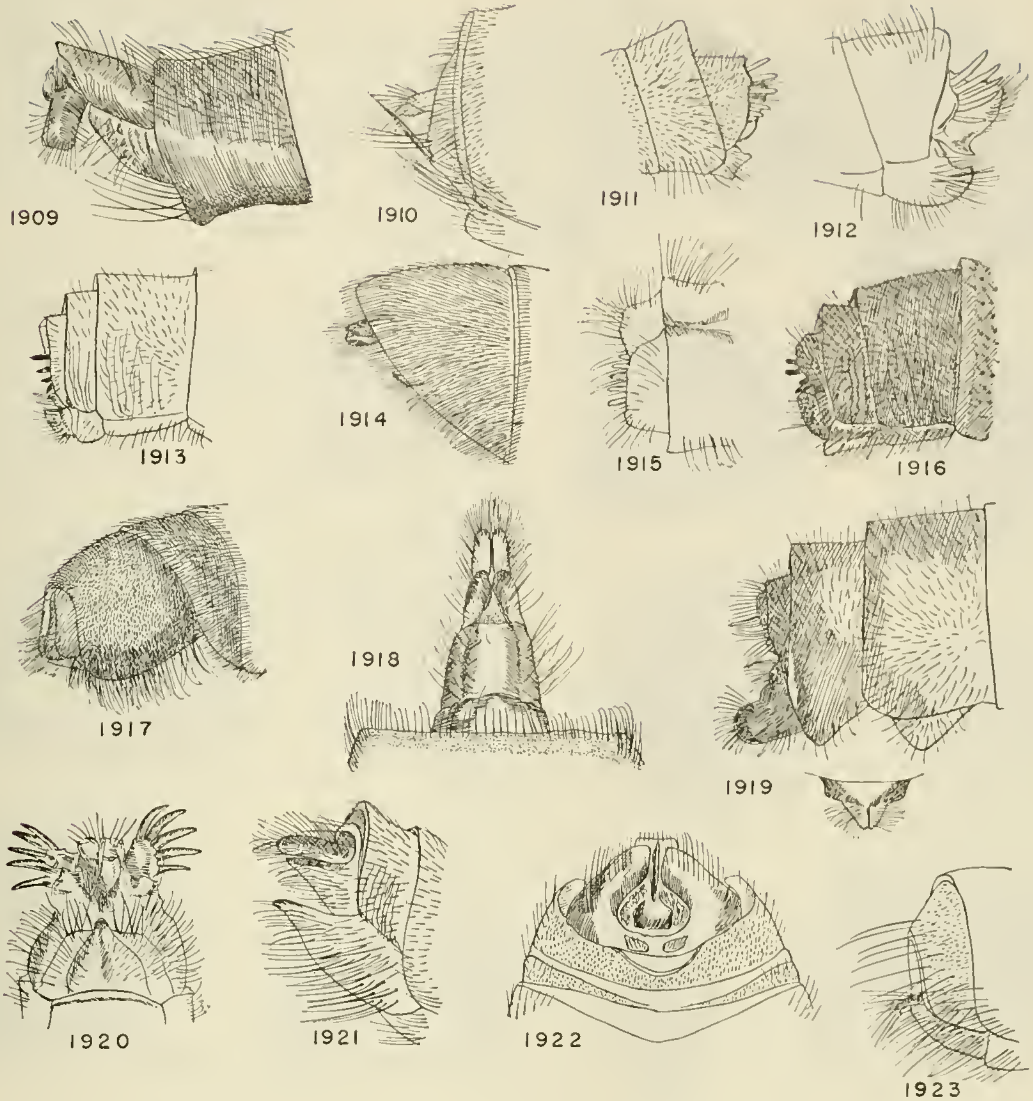


Figures 1893–1908.—Females. 1893, *Cyrtophrys attenuatus* Loew. 1894, *Phellus piliferus* Dakin and Fordham. 1895, *Leptarthrus brevirostris* Meigen. 1896, *Dakinomyia froggattii* Dakin and Fordham, ventral. 1897, *Brachyrrhopala bella* White. 1898, *Leptarthrus brevirostris* Meigen 1899, *Brachyrrhopala* sp. 1900, *Dakinomyia froggattii* Dakin and Fordham. 1901, *Sphageus chalcoproctus* Loew. 1902, *Erythropogon ichneumoniformis* White. 1903, *Bathypogon* sp. 1904, *Thereutria pulchripes* White. 1905, *Aplestobroma avida* Hull. 1906, *Aplestobroma avida* Hull. 1907, *Psilozona albitarsis* Ricardo. 1908, *Theromyia murina* Philippi, ventral.

1873, *Neodioctria australis* Ricardo. 1874, *Theromyia murina* Philippi. 1875, *Trigonomima pennipes* Hermann. 1876, *Pseudoholopogon chalcogaster* Dufour. 1877, *Obelophorus landbecki* Philippi. 1878, *Helolaphyctis* sp., ventral. 1879, *Dicolonus simplex* Loew. 1880, *Aczelia infumatus* Lynch Arribálzaga. 1881, *Oligopogon pollinosus* Engel. 1882, *Damalis planiceps* Fabricius. 1883, *Harpagobroma fumosa*, new species. 1884, *Pritchardia puella* Bromley. 1885, *Dioctria banksi* Johnson. 1886, *Harpagobroma fumosa*, new species. 1887, *Myelaphus* sp. 1888, *Neoscleropogon elongatus* Macquart. 1889, *Grypoctonus lama* Speiser. 1890, *Psilozona bancrofti* Paramonov, in litt. 1891, *Psilozona* sp. 1892, *Glyphotriclis ornatus* Schiner.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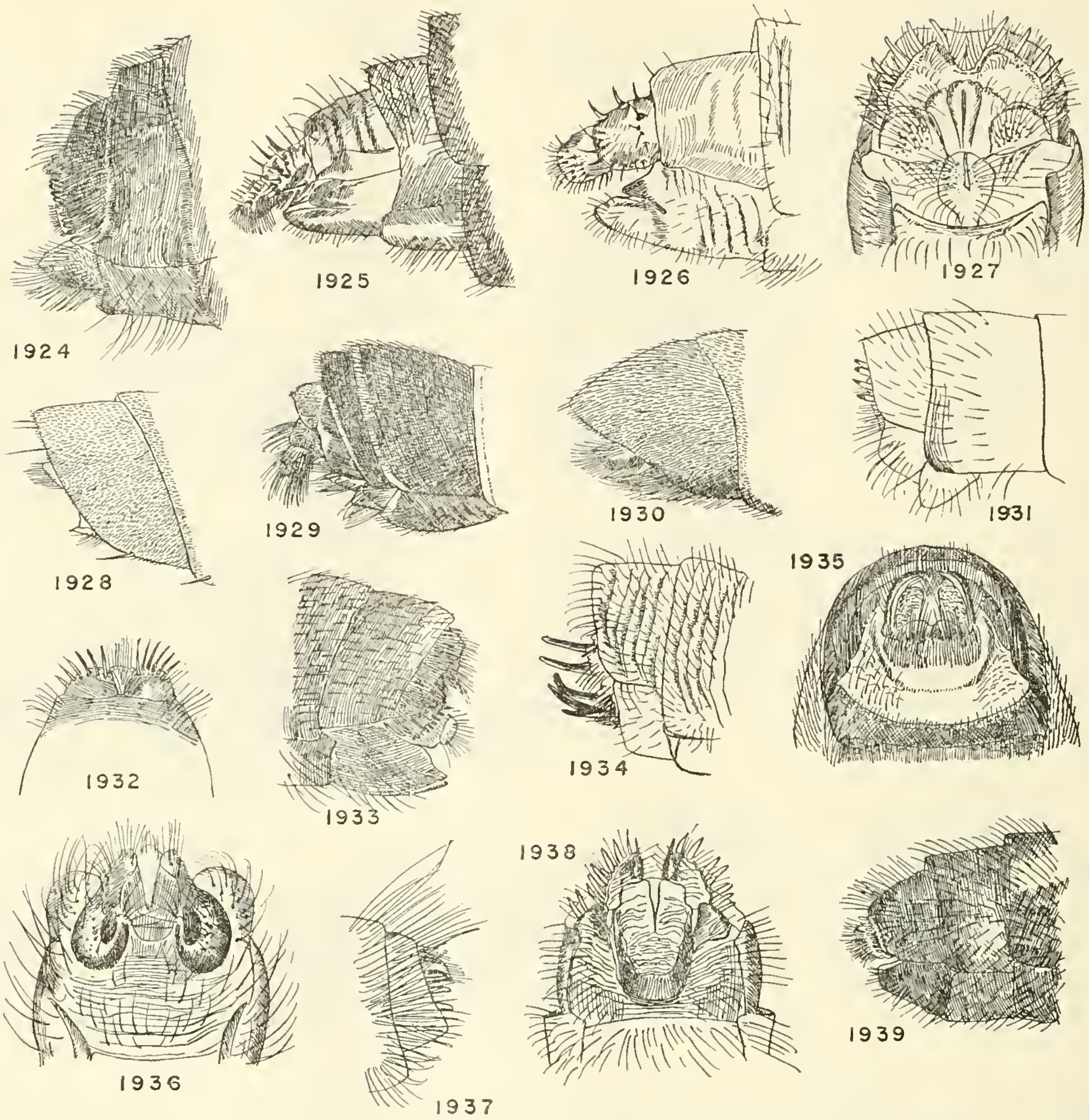
Figures 1909–1923.—Females. 1909, *Pritchardia hirtipes* Macquart. 1910, *Trichardis testacea* Hermann. 1911, *Gonioscelis femoralis* Ricardo. 1912, *Neocyrtopogon bifasciatus* Ricardo. 1913, *Paraterpogon punctatus* Paramonov, in litt. 1914, *Triclioscelis perfecta* Curran. 1915, *Teratopus cyaneus* Fabricius. 1916, *Paraterpogon punctatus* Paramonov, in litt. 1917, *Neopogon trifasciatus* Say. 1918, *Codula limbipennis* Macquart. 1919, *Zabrotica* sp. 1920, *Enigmomorpheus paradoxus* Hermann, ventral. 1921, *Molobratia teutonus* Linné. 1922, *Orrhodops americanus* Curran. 1923, *Damalis planiceps* Fabricius.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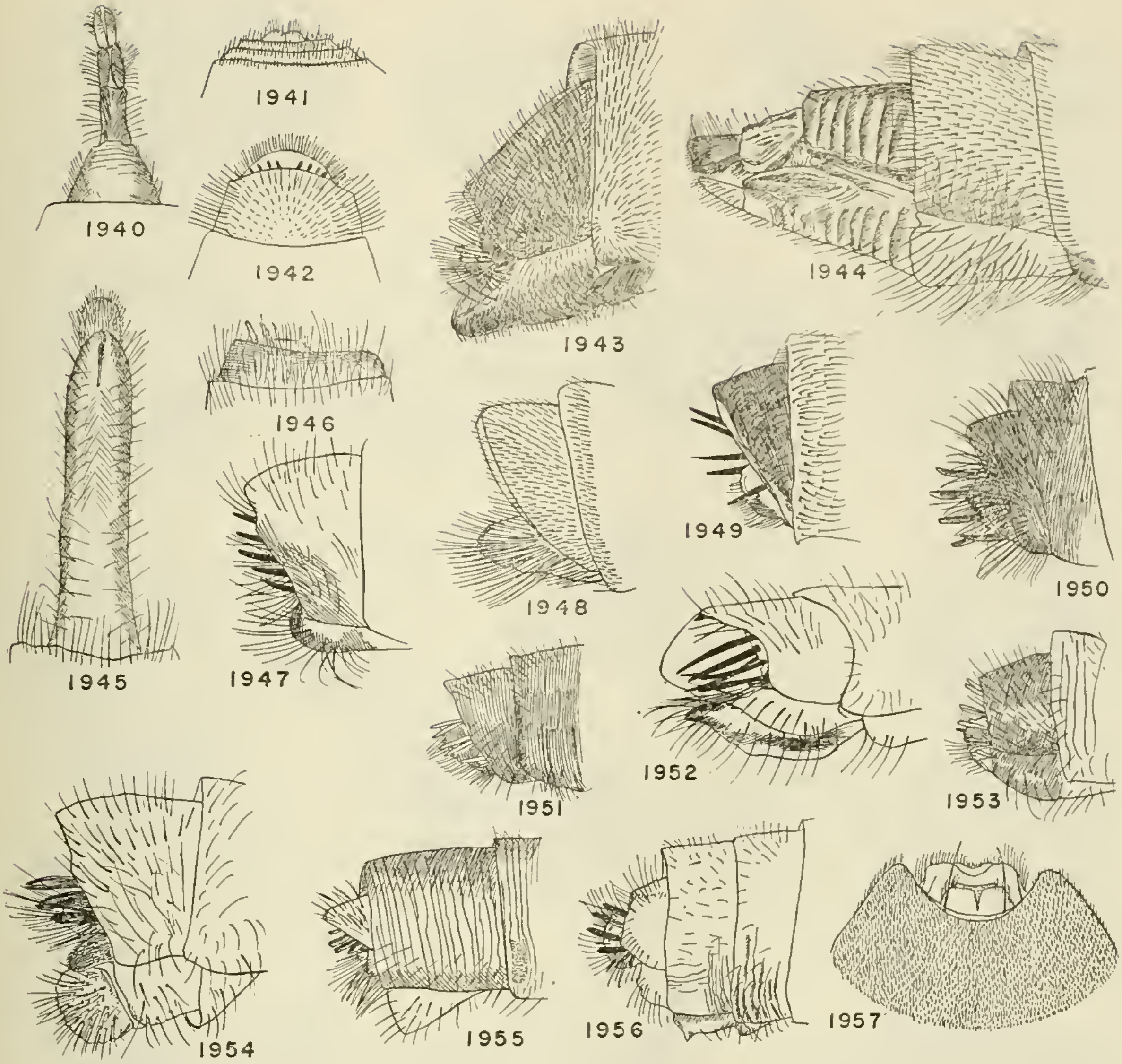
Figures 1924–1939.—Females. 1924, *Cabaza pulchella* Macquart. 1925, *Chrysopogon signatus* Paramonov, in litt. 1926, *Opseostlengis insignis* White. 1927, *Dizonias tristis* Walker. 1928, *Psilocurus nudiusculus* Loew. 1929, *Helolaphyctis* sp. 1930, *Acrochordomerus aeneus* Hermann. 1931, *Mecynopus pulverulentus* Engel. 1932, *Hypenetes grisescens* Engel. 1933, *Brachyrrhopala claripennis* Paramonov, in litt. 1934, *Dicranus schrottkyi* Bezzi. 1935, *Acrochrodomerus aeneus* Hermann, ventral. 1936, *Dioctria albius* Walker, ventral. 1937, *Eriopogon laniger* Meigen. 1938, *Stenopogon andersoni* Bromley. 1939, *Brachyrrhopala* sp.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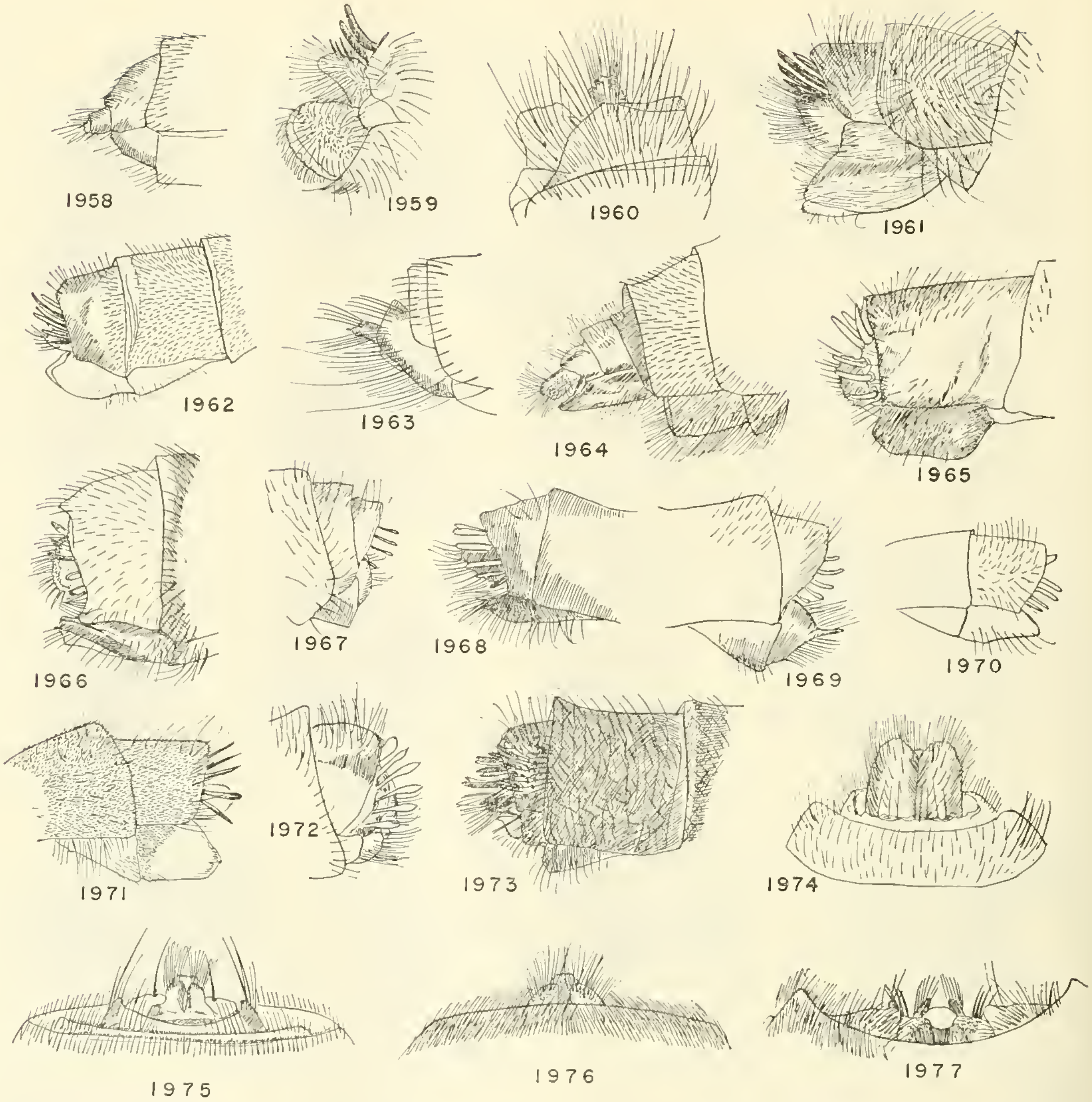
Figures 1940–1957.—Females. 1940, *Chrysopogon magnificus* Paramonov, in litt. 1941, *Triclis* sp. 1942, *Stichopogon* (*Cryptopogon*) *vernaculus* White. 1943, *Scylaticus* sp. 1944, *Chrysopogon magnificus* Paramonov, in litt. 1945, *Chrysopogon magnificus* Paramonov, in litt., ventral. 1946, *Jothopogon leucomallus* Loew. 1947, *Prolepsis lucifer* Wiedemann. 1948, *Myelaphus* sp. 1949, *Daspletis vulpes* Loew. 1950, *Lastaurus anthracinus* Loew. 1951, *Aphamartania maculipennis* Macquart. 1952, *Parataracticus rubidus* Cole. 1953, *Metalaphria* sp. 1954, *Itolia maculata* Wilcox. 1955, *Coleomyia setigerum* Cole. 1956, *Ilodophylax basingeri* Pritchard. 1957, *Psilocurus nudiusculus* Loew.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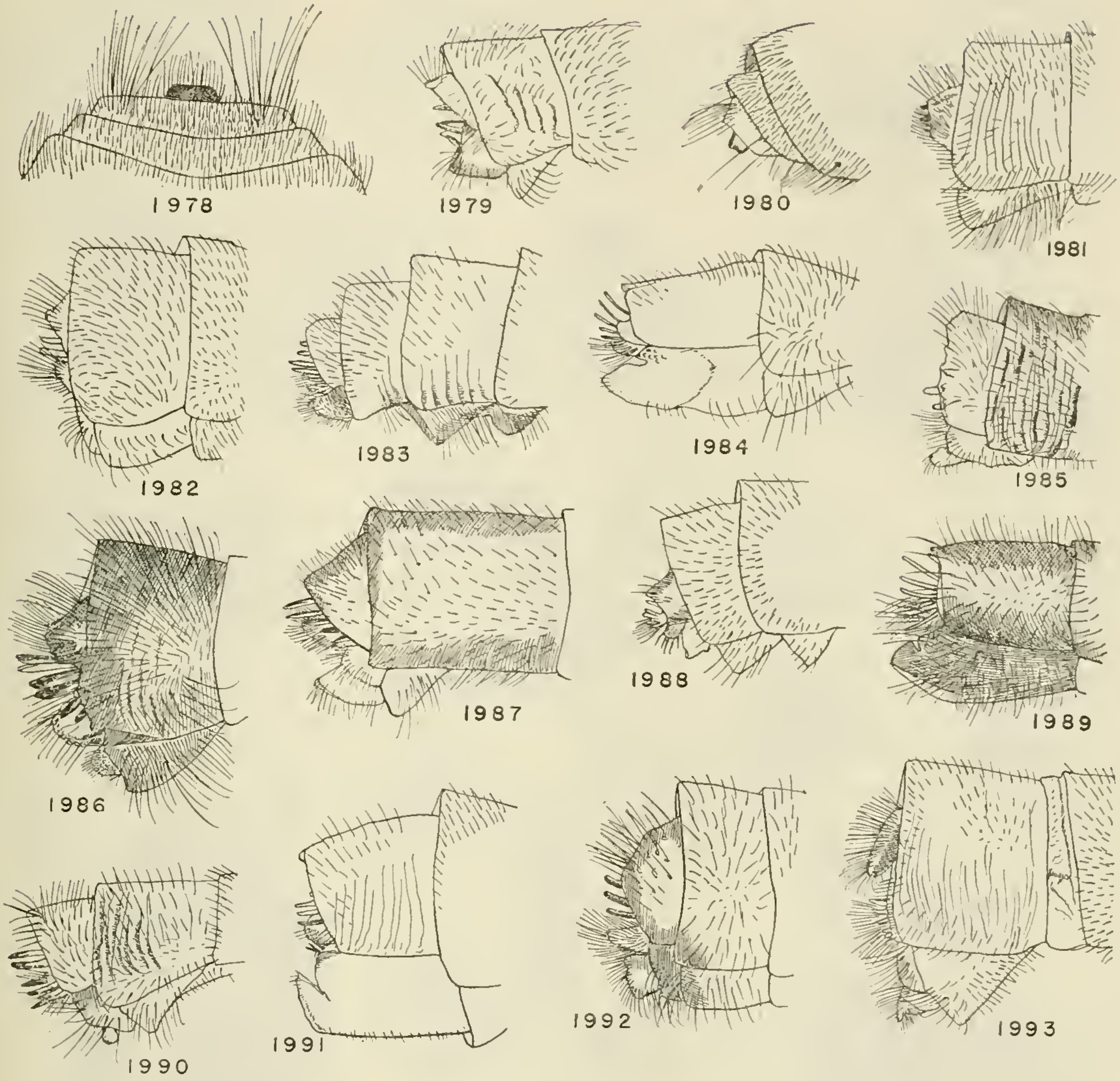
Figures 1958–1977.—Females. 1958, *Trigonomima pennipes* Hermann. 1959, *Questopogon clarkii* Dakin and Fordham. 1960, *Dicolonus simplex* Loew. 1961, *Oratostylum lepidum* Ricardo. 1962, *Psilinus cinerascens* Wulp. 1963, *Dioctria banksi* Johnson. 1964, *Codula limbipennis* Macquart. 1965, *Galactopogon hispidus* Engel. 1966, *Chylophaga australis* Ricardo. 1967, *Amphisbetetus dorsatus* Becker. 1968, *Tolmerolestes* sp. 1969, *Plesiomma indecorum* Loew, 1970, *Rhadinus megalonix* Loew. 1971, *Rhabdogaster maculipennis* Engel. 1972, *Crobilocerus megilliformis* Loew. 1973, *Cycloscerus platycerus* Villeneuve. 1974, *Molobratia teutonus* Linné. 1975, *Trichardis testacea* Hermann. 1976, *Triclioscelus perfecta* Curran. 1977, *Hoplistomerus nobilis* Macquart.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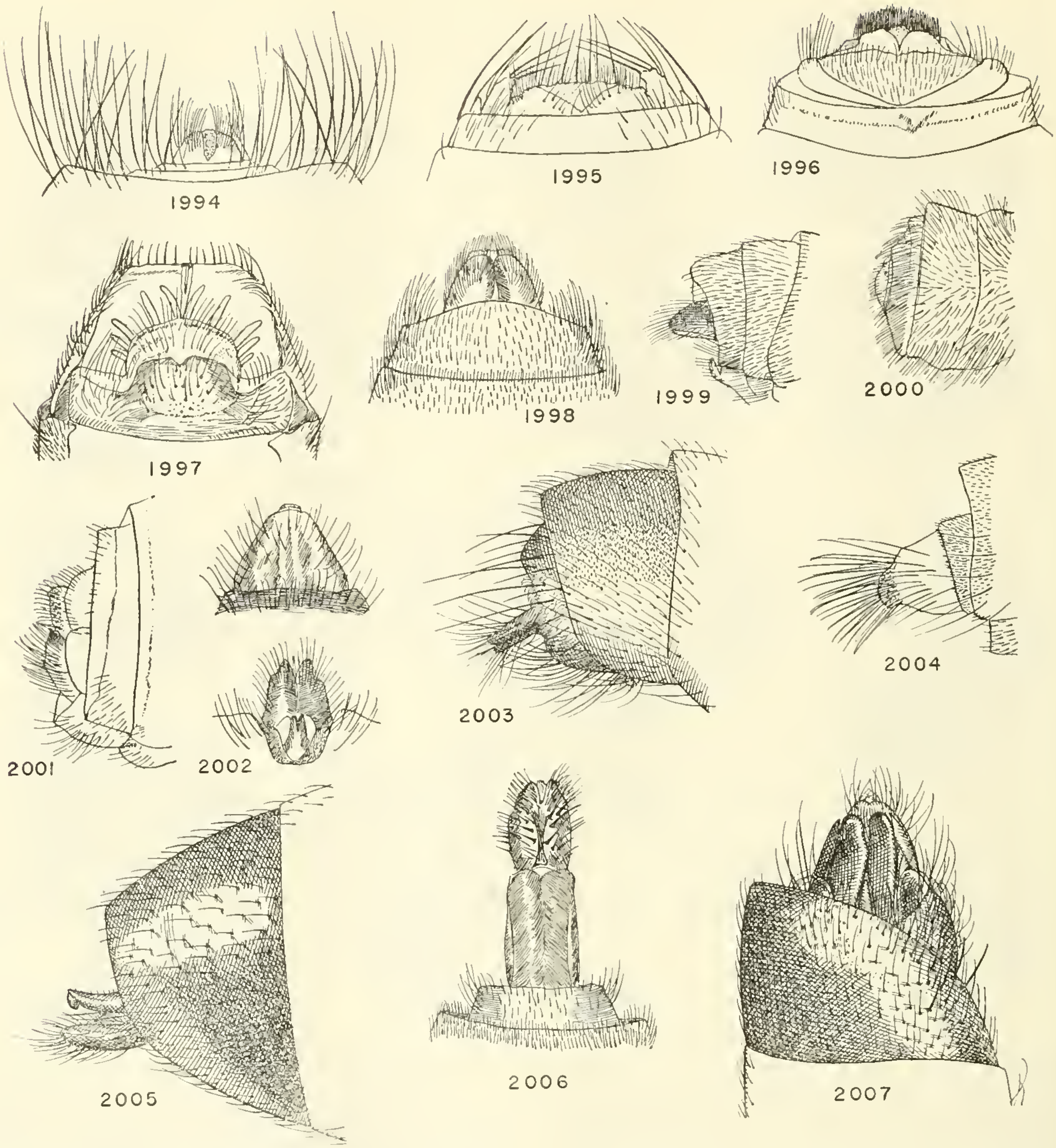
Figures 1978–1993.—Females. 1978, *Laphystia ochreifrons* Curran. 1979, *Rhacolaemus variabilis* Hermann. 1980, *Laphystia ochreifrons* Curran. 1981, *Cophura pollinosa* Curran. 1982, *Cyrtopogon ruficornis* Fabricius. 1983, *Aterpogon cyrtopogonoides* Hardy. 1984, *Lasiopogon fumipennis* Melander. 1985, *Willistonina bilineata* Williston. 1986, *Questopogon clarkii* Dakin and Fordham. 1987, *Neodioctria australis* Ricardo. 1988, *Taracticus octopunctatus* Say. 1989, *Townsendia niger* Back. 1990, *Enigmomorpheus paradoxus* Hermann. 1991, *Neolaparus* sp. 1992, *Heteropogon manicatus* Meigen. 1993, *Saropogon aurifrons* Macquart.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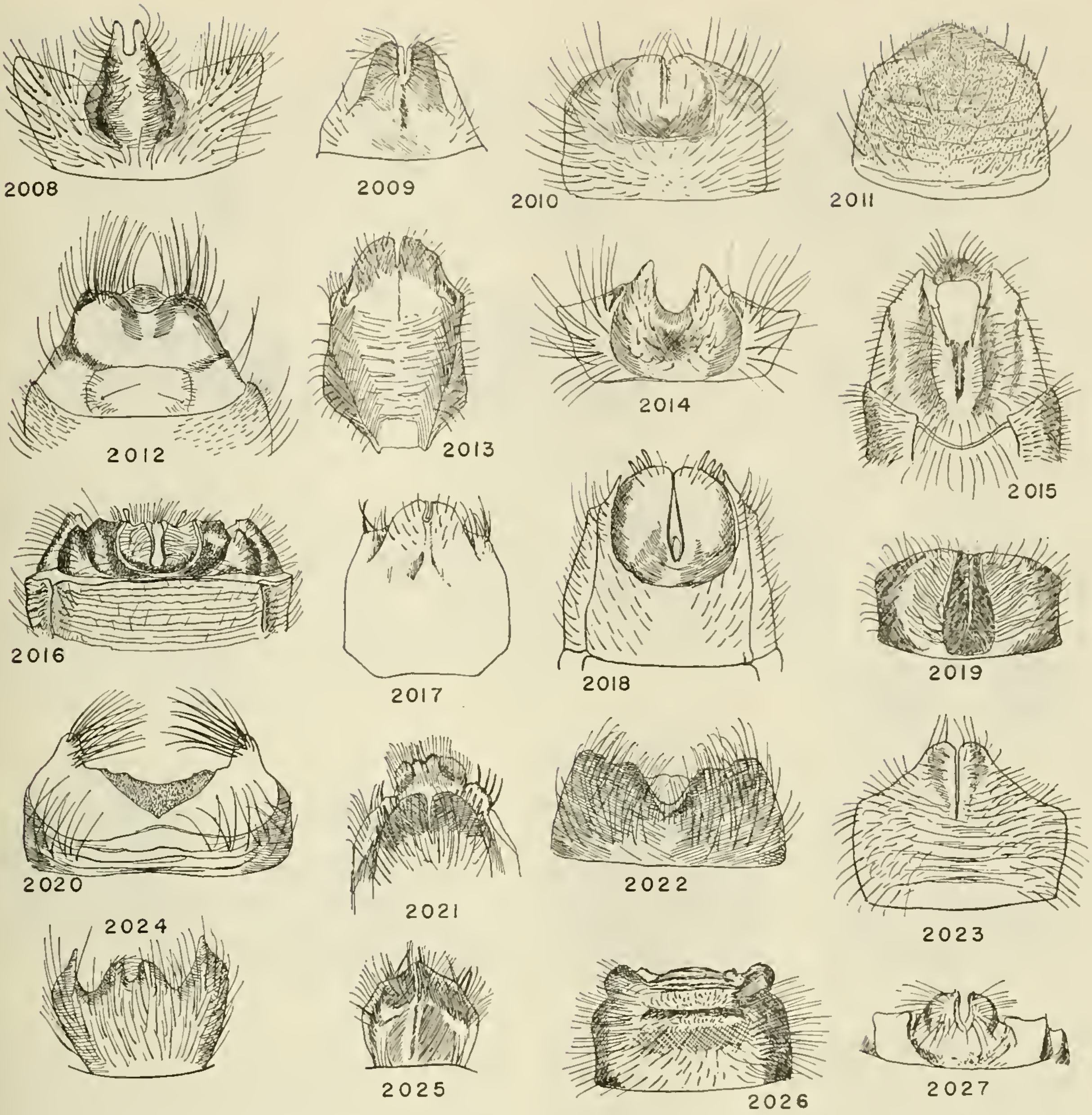
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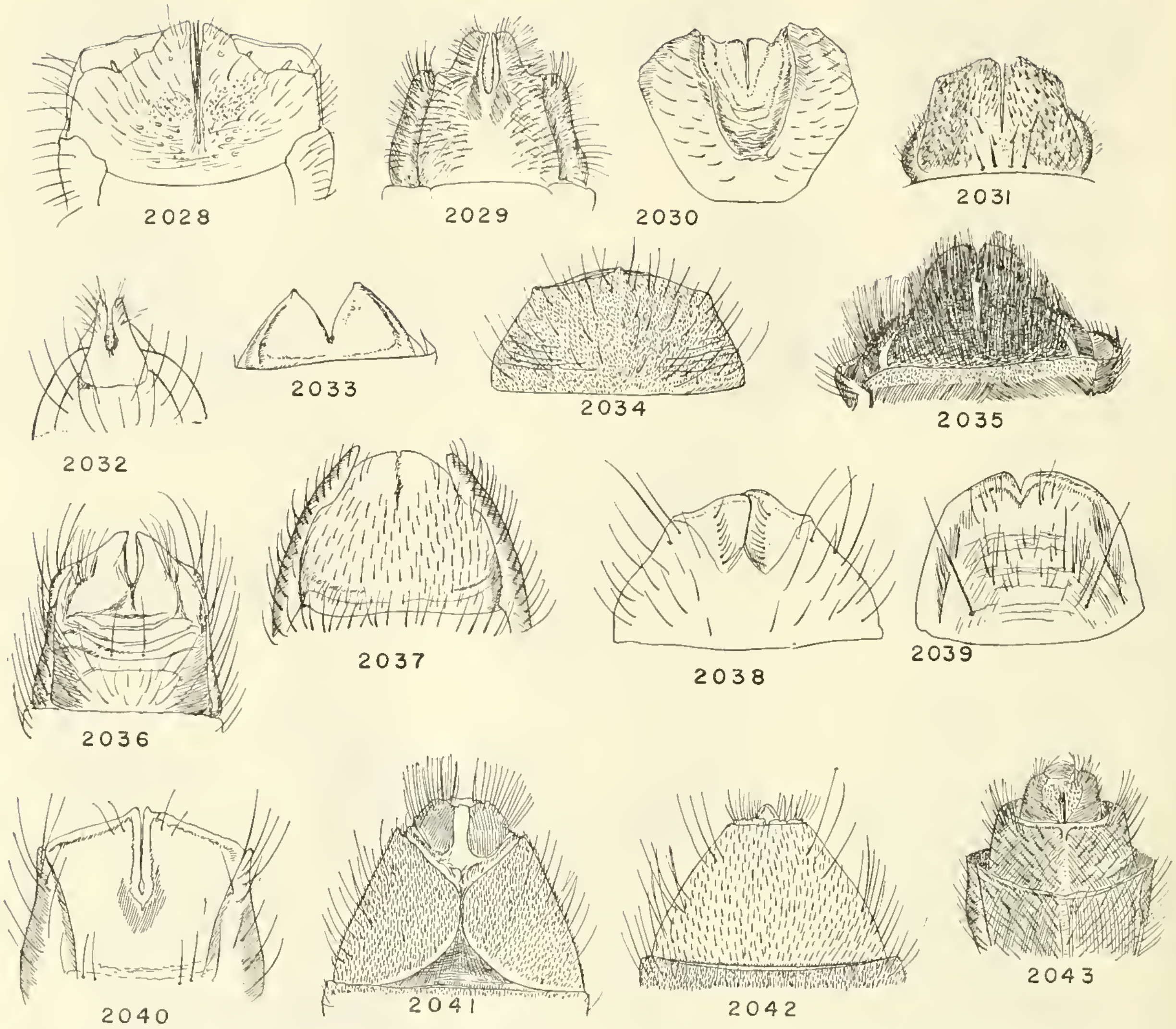
FIGURES 2008–2027.—Female eighth sternites. 2008, *Lastaurus anthracinus* Loew. 2009, *Neodioctria australis* Ricardo. 2010, *Plesiomma testaceum* Fabricius. 2011, *Holcocephala abdominalis* Say. 2012, *Damalina* sp. 2013, *Neolaparus* sp. 2014, *Nicocles politus* Say. 2015, *Lasiopogon drabicolum* Cole. 2016, *Willistonina bilineata* Williston. 2017, *Chylophaga australis* Ricardo. 2018, *Townsendia niger* Back. 2019, *Thereutria* sp. 2020, *Dioctria baumhaueri* Meigen. 2021, *Erythropogon ichneumoniformis* White. 2022, *Laphystia ochreifrons* Curran. 2023, *Microstylum galactodes* Loew. 2024, *Hoplotriclis pallasii* Wiedemann. 2025, *Neoscleropogon elongatus* Macquart. 2026, *Bathypogon* sp. 2027, *Cycloscerus platycerus* Villeneuve.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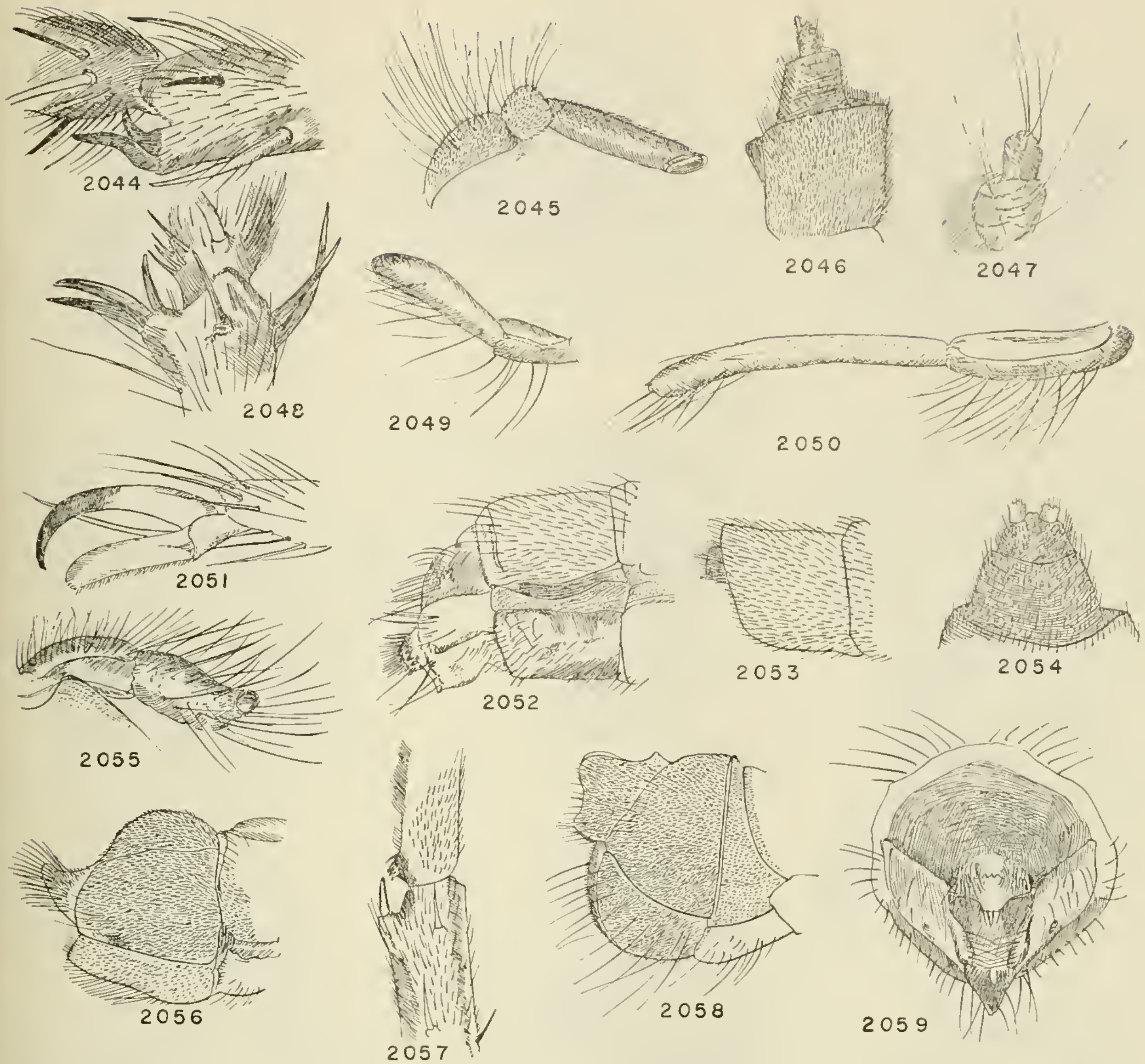
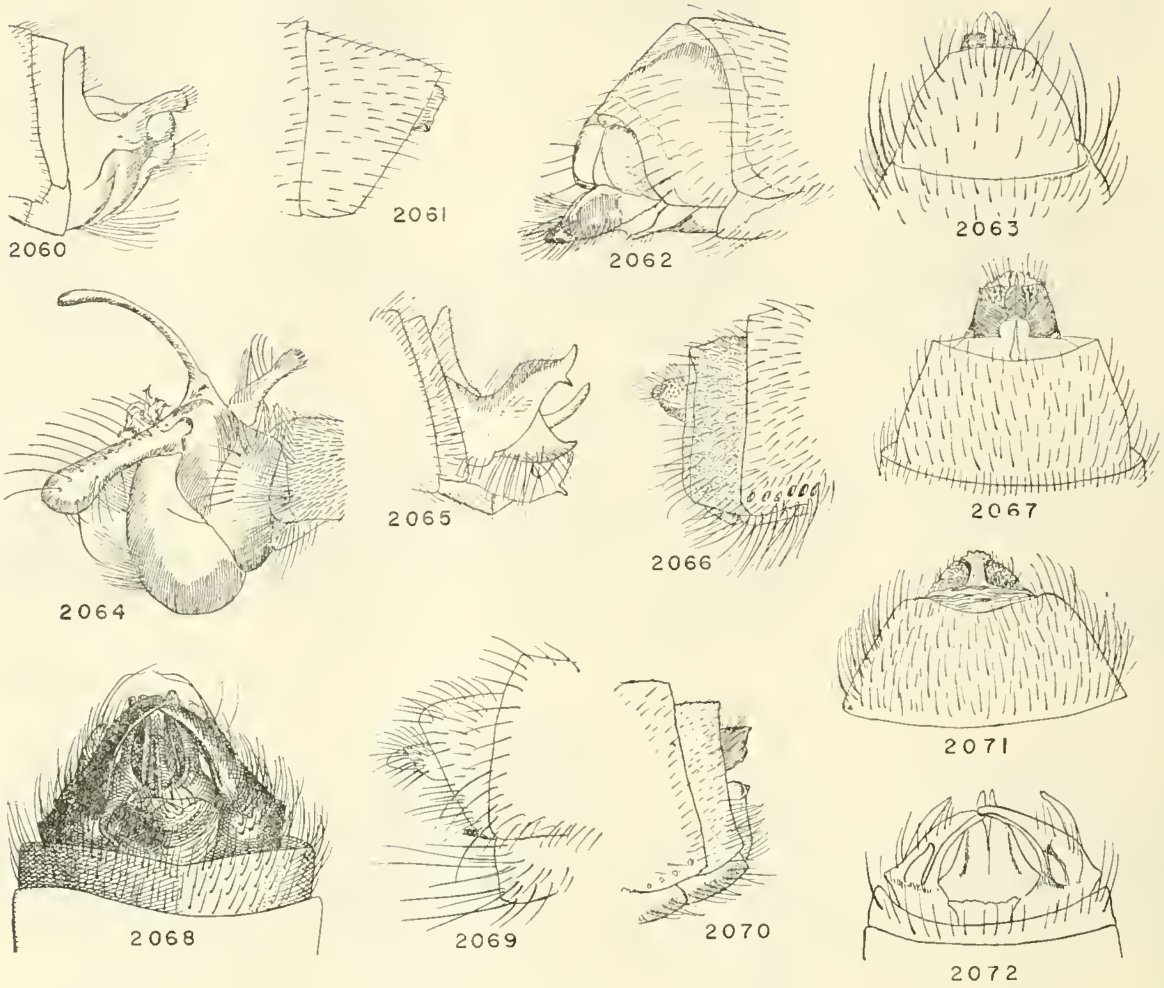
Figures 2028–2043.—Female eighth sternites. 2028, *Parataracticus rubidus* Cole. 2029, *Stichopogon* (*Cryptopogon*) *vernaculus* White. 2030, *Galactopogon hispidus* Engel. 2031, *Aczelia infumatus* Lynch Arribálzaga. 2032, *Brachyrrhopala bella* White. 2033, *Aterpogon* sp. 2034, *Damalis* sp. 2035, *Cabaza pulchella* Macquart. 2036, *Aplestobroma avida* Hull. 2037, *Eurhabdus zephyreus* Aldrich. 2038, *Acronyches* sp. 2039, *Lasiocnemis lugens* Loew. 2040, *Leptopteromyia americana* Hardy. 2041, *Holcocephala abdominalis* Say. 2042, *Systellogaster* sp. 2043, *Lasiocnemis lugens* Loew, dorsal aspect of female.



Figures 2044–2059.—Female terminalia except as noted. 2044, *Questopogon clarkii* Dakin and Fordham, apex of fore tibia. 2045, *Clinopogon* sp., palpus, of 3 segments. 2046, *Mesoleptogaster fuscatipennis* Frey. 2047, *Atoniomyia hispidella* Hermann, palpus. 2048, *Questopogon clarkii* Dakin and Fordham, apex of midtibia. 2049, *Psilinus cinerascens* Wulp, palpus. 2050, *Oratostylum lepidum* Ricardo, palpus. 2051, *Sphageus chalcoproctus* Loew, pretarsus. 2052, *Systellogaster fascipennis* Hermann. 2053, *Dolichoscius* sp. 2054, *Mesoleptogaster fuscatipennis* Frey. 2055, *Sphageus chalcoproctus* Loew, palpus. 2056, *Holcocephala abdominalis* Say. 2057, *Erythropogon ichneumoniformis* White, apex fore tibia. 2058, *Orrhodops americanus* Curran. 2059, *Systellogaster fascipennis* Hermann, posterior aspect.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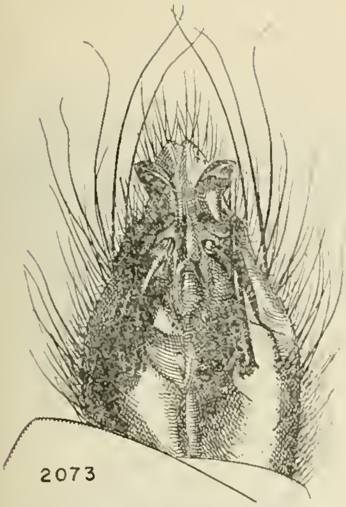
Figures 2060–2072.—Females, except as noted. 2060, *Lasiocnemis* sp., male. 2061, *Ophionomima solocifemur* Enderlein. 2062, *Acronyches imitator* Hermann. 2063, *Lagynogaster* sp. 2064, *Psilonyx* sp., male. 2065, *Lagynogaster sauteri* Hermann, male. 2066, *Lasiocnemis lugens* Loew. 2067, *Acronyches* sp. 2068, *Lasiocnemis violacea* Hermann, ventral aspect of male. 2069, *Lagynogaster* sp. 2070, *Lasiocnemis* sp. 2071, *Euscelidea* sp. 2072, *Lagynogaster sauteri* Hermann, dorsal aspect of male.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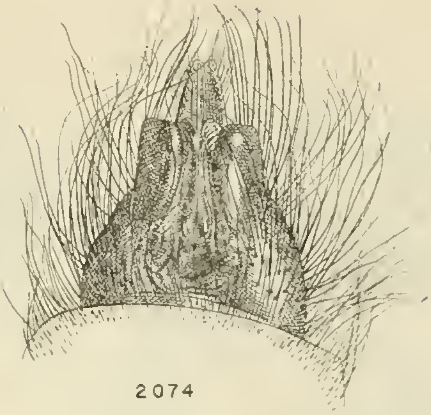
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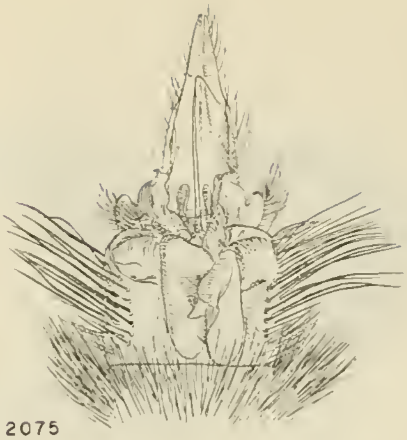
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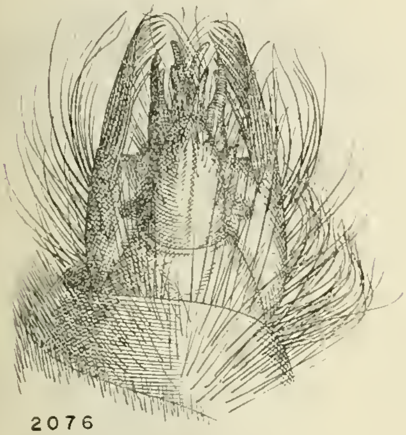
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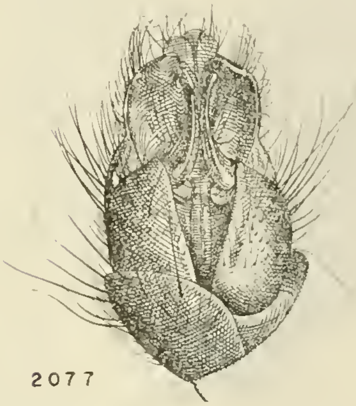
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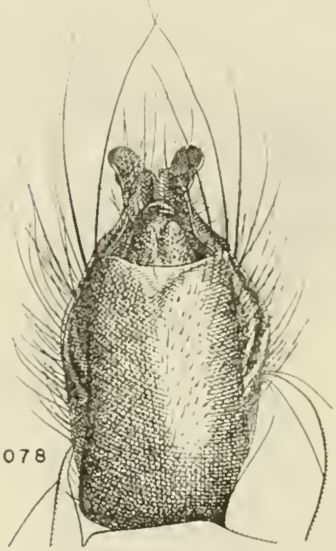
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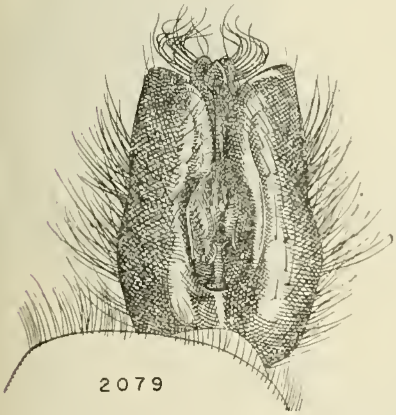
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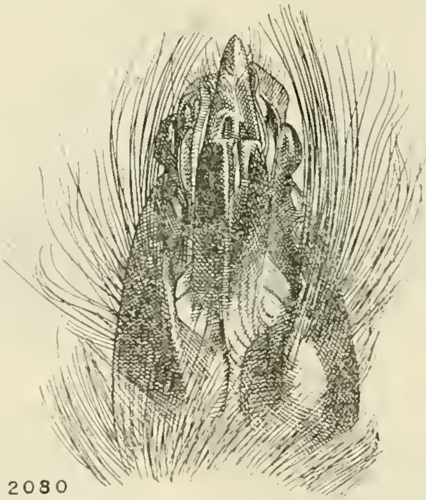
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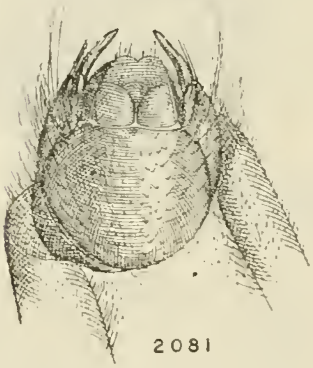
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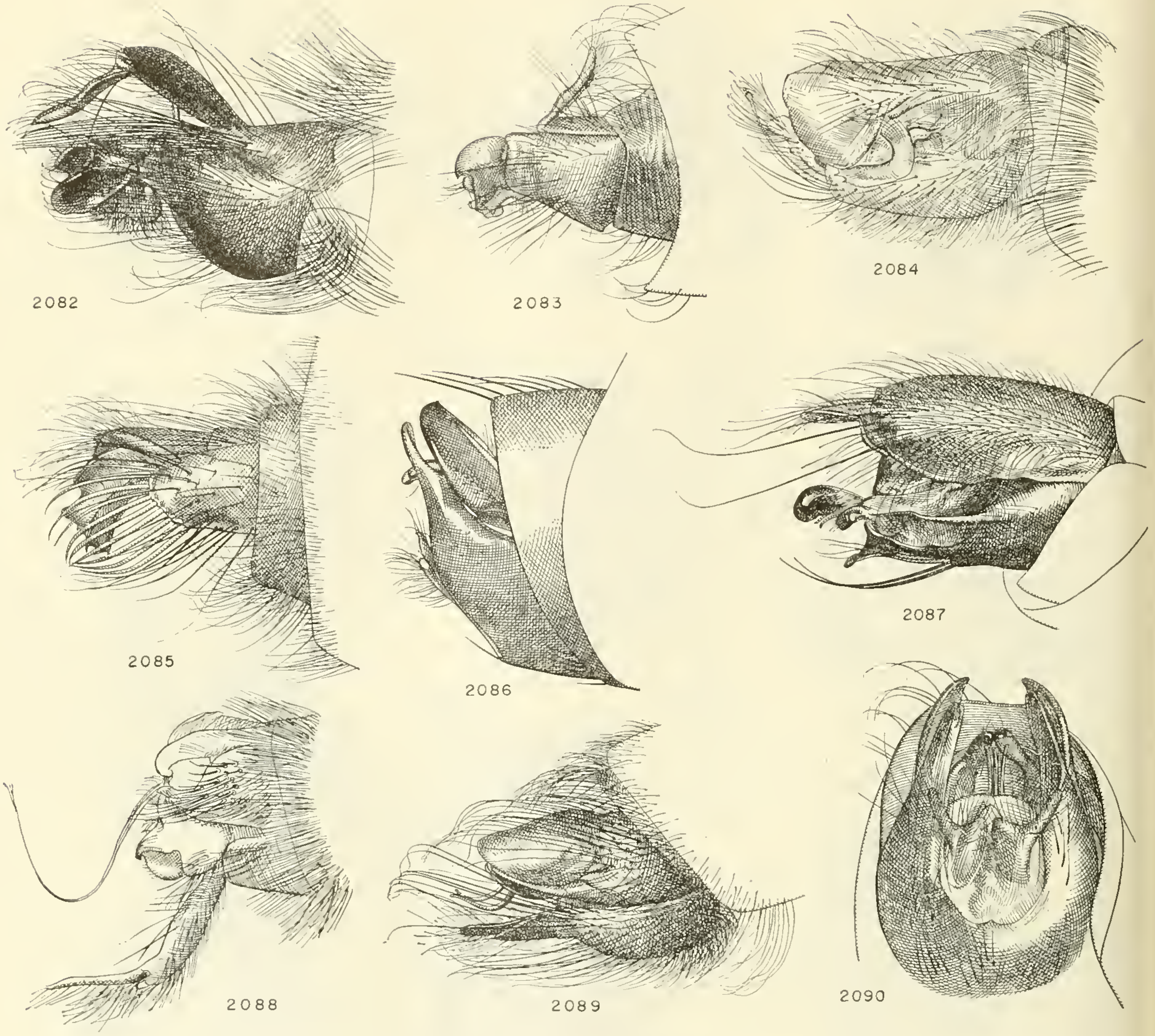
FIGURES 2073–2081.—Males. 2073, *Choerades vulcanus* Wiedemann. 2074, *Pagidolaphria horrida* Walker. 2075, *Systropalpus aurivulpes*, new species. 2076, *Pilica formidolosa* Walker. 2077, *Nusa brachyptera* Loew. 2078, *Choerades vulcanus* Wiedemann. 2079, *Laphria gibbosus* Linné. 2080, *Dasyllis haemorrhoa* Wiedemann. 2081, *Lamyra gulo* Loew.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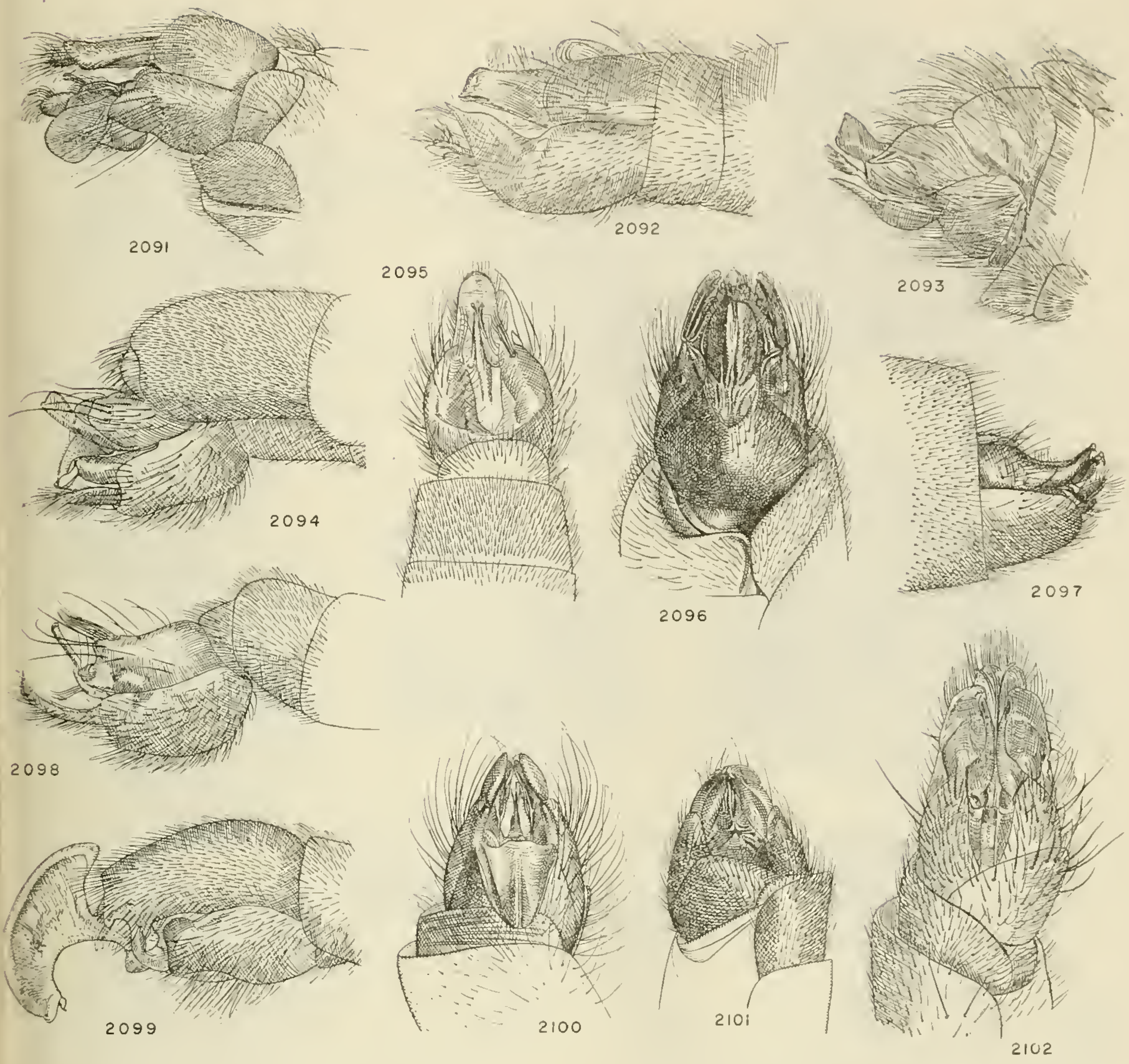
Figures 2082–2090.—Males. 2082, *Dasyllis haemorrhoa* Wiedemann. 2083, *Andrenosoma atra* Linné. 2084, *Laphria gibbosus* Linné. 2085, *Pilica formidolosa* Walker. 2086, *Ctenota molitrix* Loew. 2087, *Choerades vulcanus* Wiedemann. 2088, *Systropalpus aurivulpes*, new species. 2089, *Pagidolaphria horrida* Walker. 2090, *Ctenota molitrix* Loew.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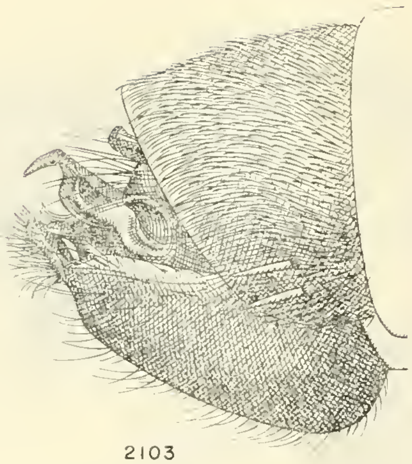
FIGURES 2091–2102.—Males. 2091, *Proagonistes athletes* Speiser. 2092, *Nusa brachyptera* Loew. 2093, *Hyperechia* sp. 2094, *Lamyra gulo* Loew. 2095, *Rhopalogaster longicornis* Wiedemann, ventral. 2096, *Proagonistes athletes* Speiser, ventral. 2097, *Laxenecera auricomata* Hermann. 2098, *Rhopalogaster longicornis* Wiedemann. 2099, *Nusa* sp. 2100, *Andrenosoma atra* Linné, ventral. 2101, *Laxenecera auricomata* Hermann, ventral. 2102, *Nusa brachyptera* Loew, ventral.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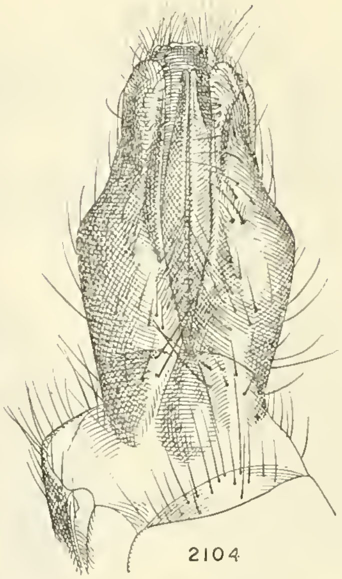
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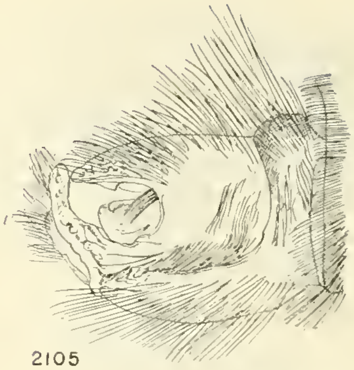
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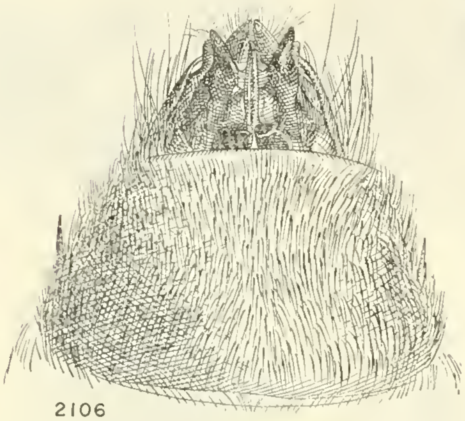
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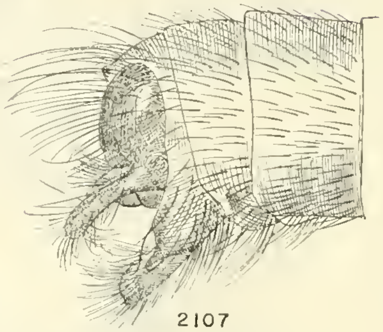
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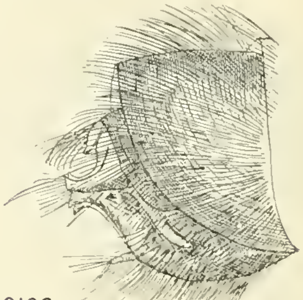
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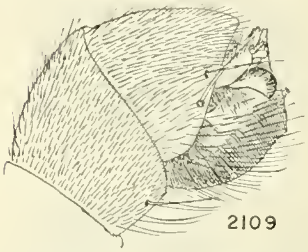
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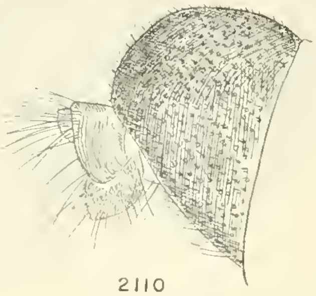
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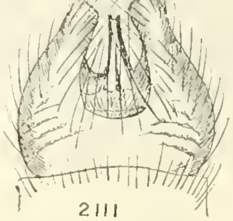
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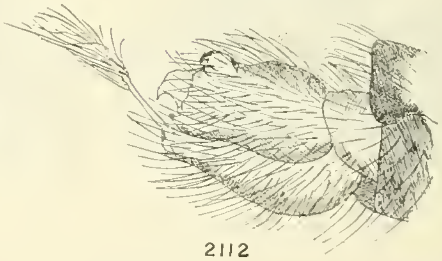
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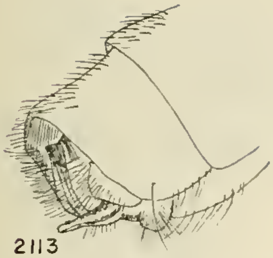
Figures 2103–2112.—Males. 2103, *Hoplistomerus nobilis* Macquart. 2104, *Doryclus distendens* Wiedemann, ventral. 2105, *Pronomopsis rubripes* Hermann. 2106, *Hoplistomerus nobilis* Macquart, true ventral aspect. 2107, *Senobasis analis* Macquart. 2108, *Cyanonedys leucura* Hermann. 2109, *Bromtheres* sp. 2110, *Atomosia puella* Say, exserted. 2111, *Megapoda labiata* Fabricius. 2112, *Anisosis producta* Walker.



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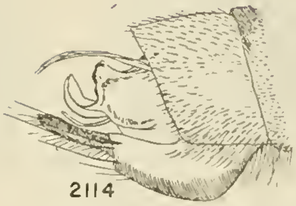

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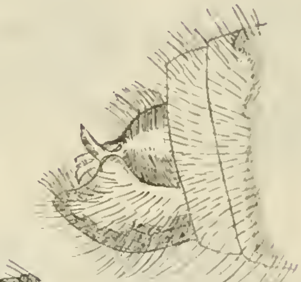

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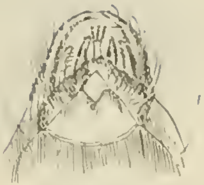

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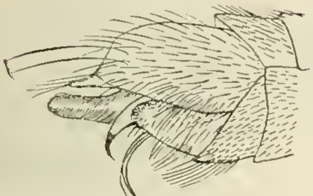

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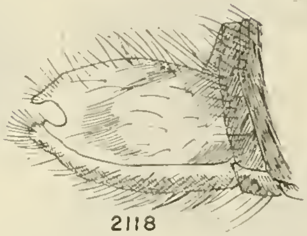

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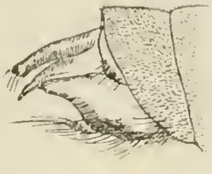

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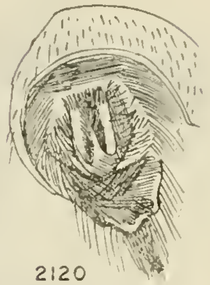

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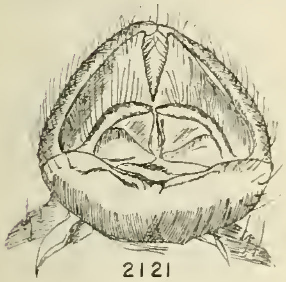

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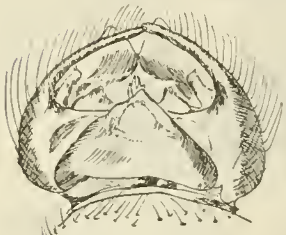

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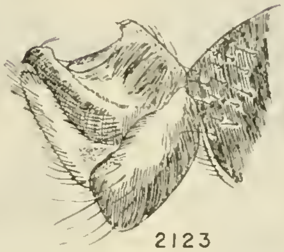

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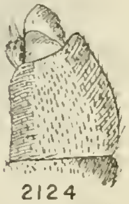

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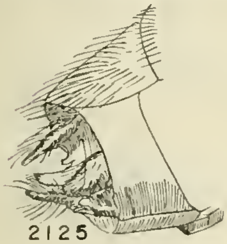

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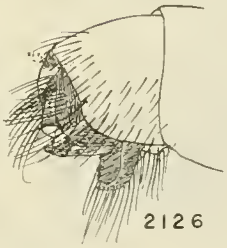

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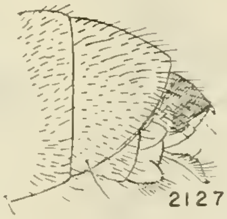

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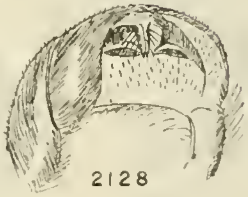

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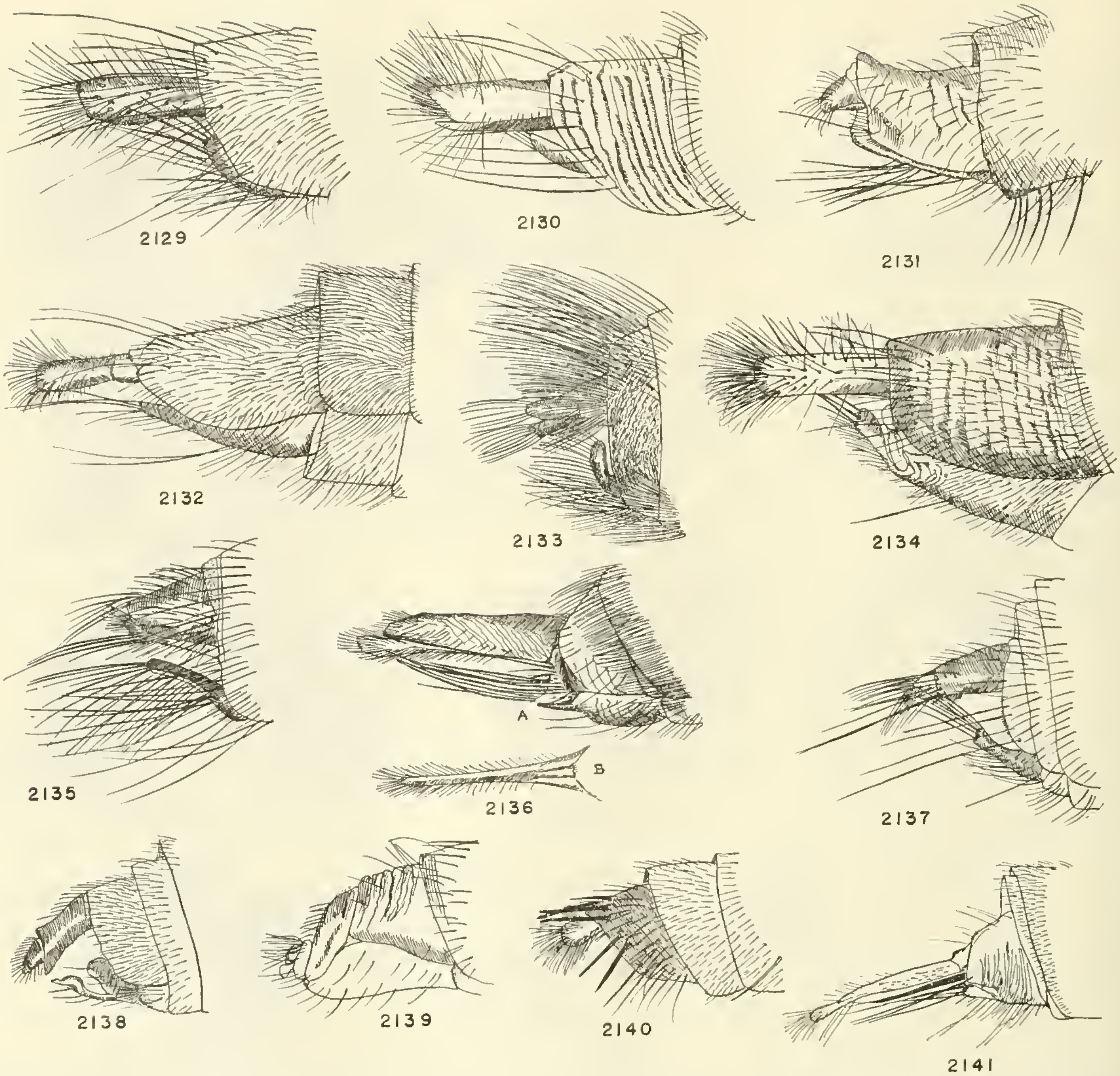
Figures 2113–2128.—Males. 2113, *Clariola pulchra* Kertesz. 2114, *Storthyngomerus tridentata* Fabricius. 2115, *Aterpogon cyrtopogonoides* Hardy. 2116, *Goneccalypsis* sp. 2117, *Cenochromyia tripars* Walker. 2118, *Doryclus distendens* Wiedemann. 2119, *Anypodetus fasciatus* Hermann. 2120, *Dichaetothyrea punctulosa* de Meijere. 2121, *Atomosia puella* Say. 2122, *Atomosia puella* Say, ventral. 2123, *Atomosia puella* Say. 2124, *Despotiscus simmondsi* Bezzi. 2125, *Dissmeryngodes dispar* Walker. 2126, *Dichaetothyrea punctulosa* de Meijere. 2127, *Goneccalypsis* sp. 2128, *Opeatocerus purpurata* Westwood.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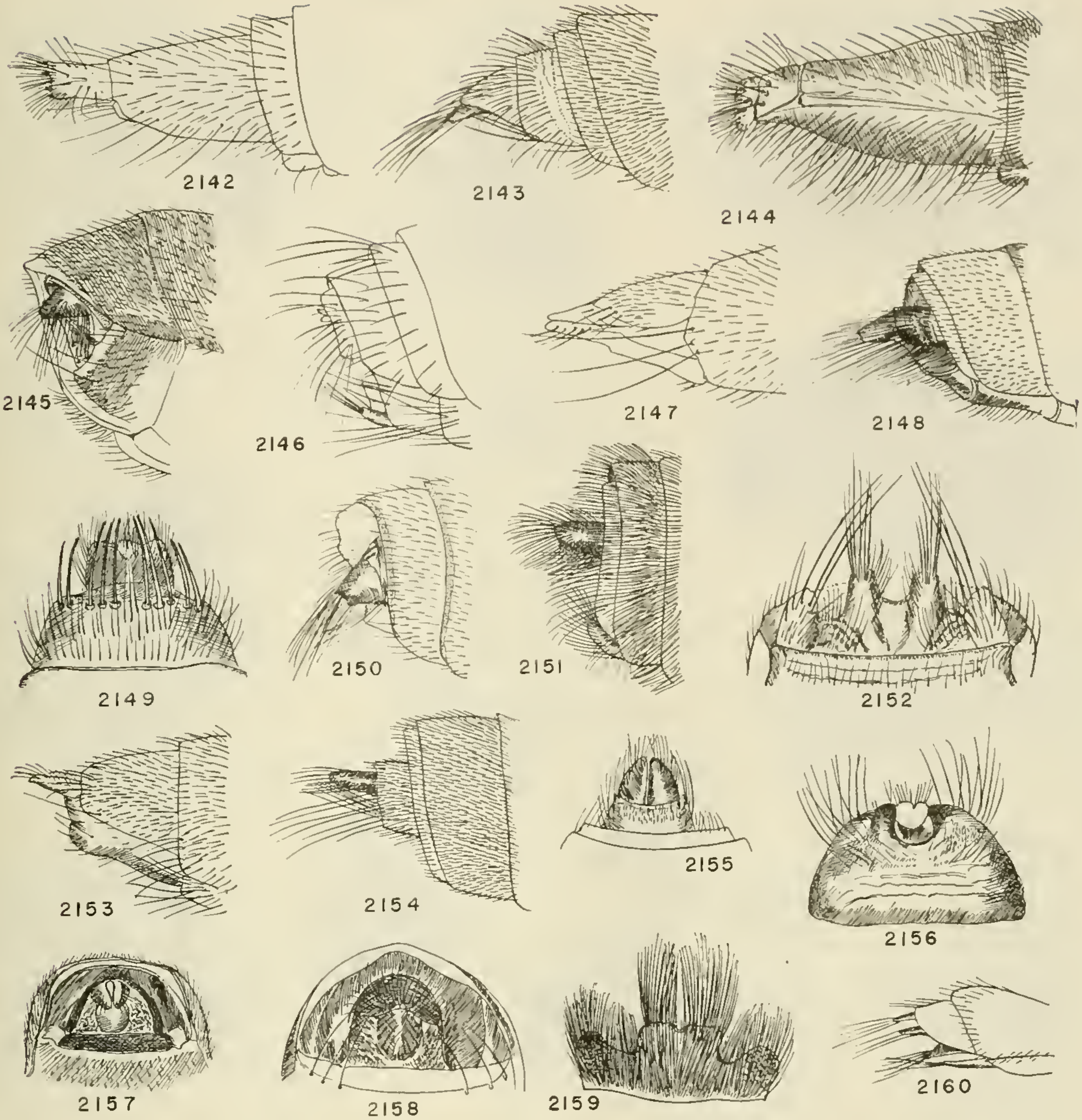
Figures 2129–2141.—Females. 2129, *Dasyllis haemorrhoa* Wiedemann. 2130, *Hyperechia bifasciata* Grünberg. 2131, *Senobasis* sp. 2132, *Pilica* sp. 2133, *Dasylechia atrox* Williston. 2134, *Proagonistes athletes* Speiser. 2135, *Laphria flava* Linné. 2136, *Dassylina fulvithorax* Bromley: A, lateral, B, ventral aspect. 2137, *Orthogonis scapularis* Wiedemann. 2138, *Paractenota efflatouni* Engel. 2139, *Megapoda labiata* Fabricius. 2140, *Nusa leucophaea* Lynch Arribálzaga. 2141, *Storthyngomerus dymes* Walker.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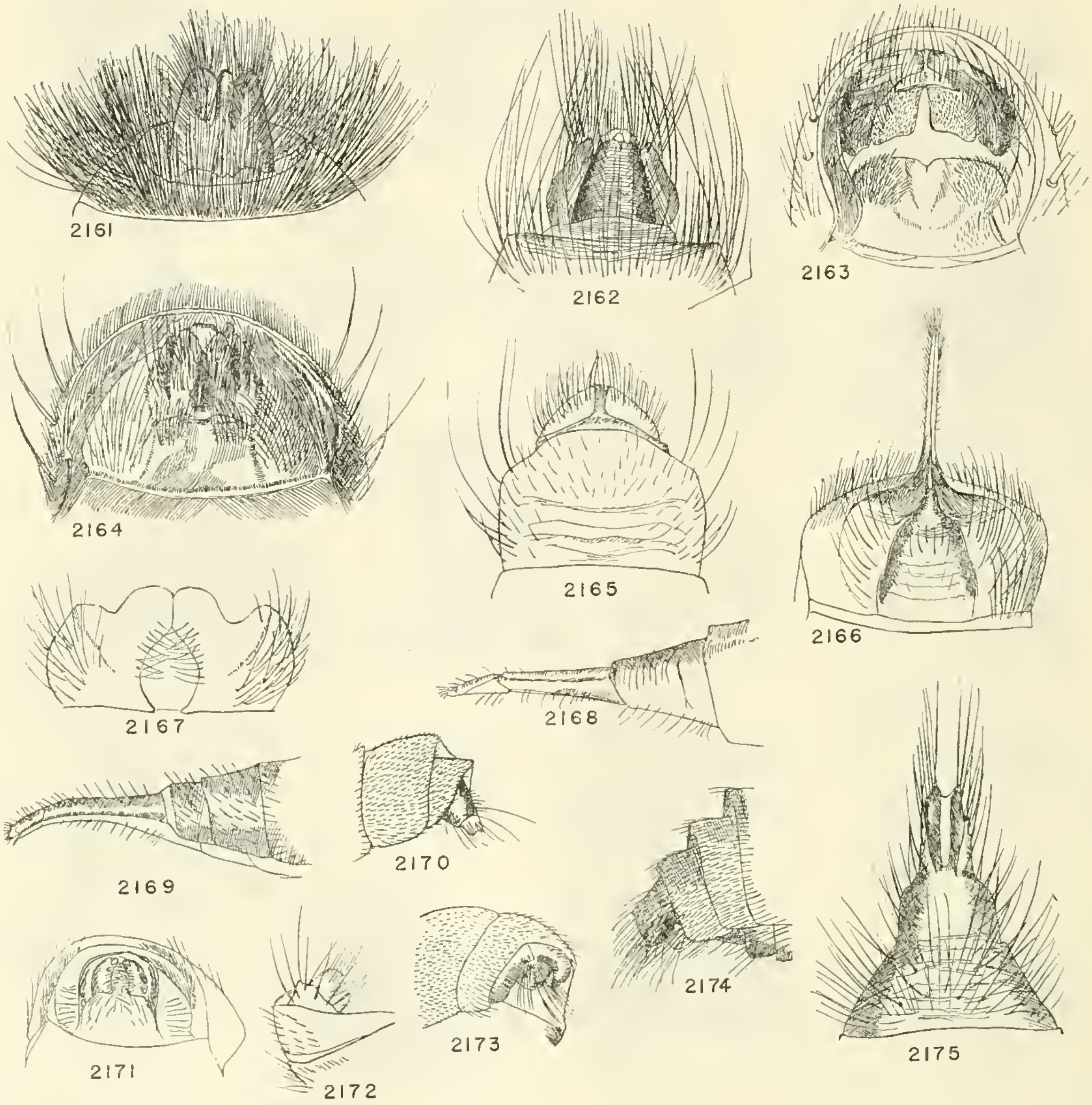
FIGURES 2142–2160.—2142, *Andrenosoma fulvicauda* Say. 2143, *Rhopalogaster longicornis* Wiedemann. 2144, *Pronomopsis rubripes* Hermann. 2145, *Epaphroditus placens* Walker. 2146, *Cerotainiops abdominalis* Brown. 2147, *Maira* sp. 2148, *Pholidotus rubriventris* Hermann. 2149. *Nusa leucophaea* Lynch Arribálzaga. 2150, *Phellopteron farri*, new species. 2151, *Laxenecera albicincta* Loew. 2152, *Orthogonis scapularis* Wiedemann. 2153, *Atomosia puella* Say. 2154, *Pholidotus anceps* Hermann. 2155, *Pholidotus rubriventris* Hermann. 2156, *Atomosia puella* Say, ventral aspect of last sternite. 2157, *Cyphotomyia lynchii* Williston, ventral. 2158, *Epaphroditus placens* Walker, ventral. 2159, *Dasylechia atrox* Williston, ventral. 2160, *Anisosis producta* Walker.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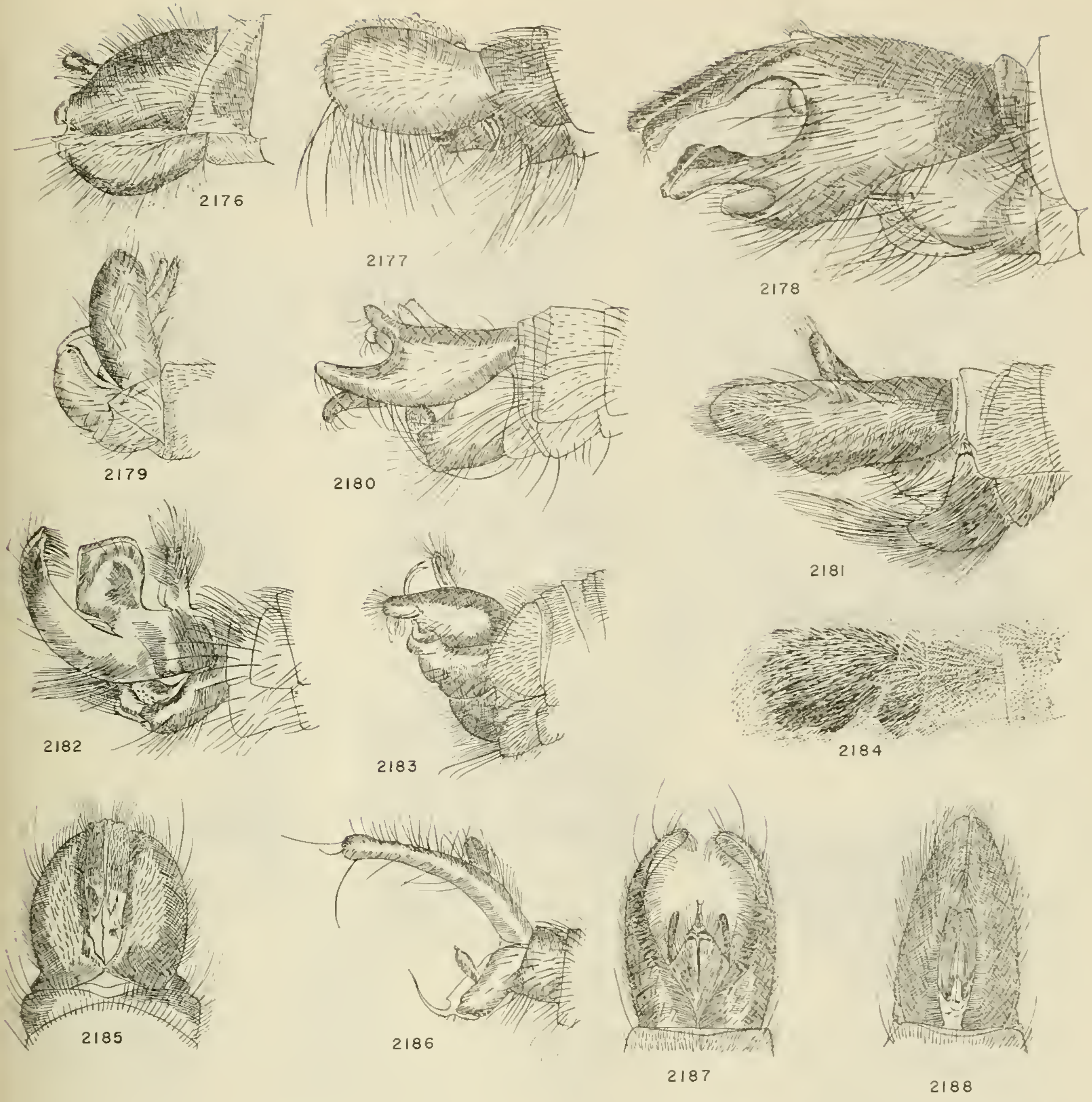
Figures 2161–2175.—Females. 2161, *Dasylechia atrox* Williston. 2162, *Laphria flava* Linné. 2163, *Cyanonedys hornii* Hermann, ventral. 2164, *Cyanonedys lugubris* Hermann, ventral. 2165, *Senobasis* sp. 2166, *Dassylina fulvithorax* Bromley. 2167, *Cerotainia macrocera* Say. 2168, *Pseudorus piceus* Walker. 2169, *Doryclus distendens* Wiedemann. 2170, *Despotiscus simmondsi* Bezzi. 2171, *Cerotainiops abdominalis atripes* McAtee, ventral. 2172, *Lamprozona atrata* Philippi. 2173, *Löwinella virescens* Loew. 2174, *Stiphrolamyra rubicunda* Oldroyd. 2175, *Dasyllis haemorrhoa* Wiedemann.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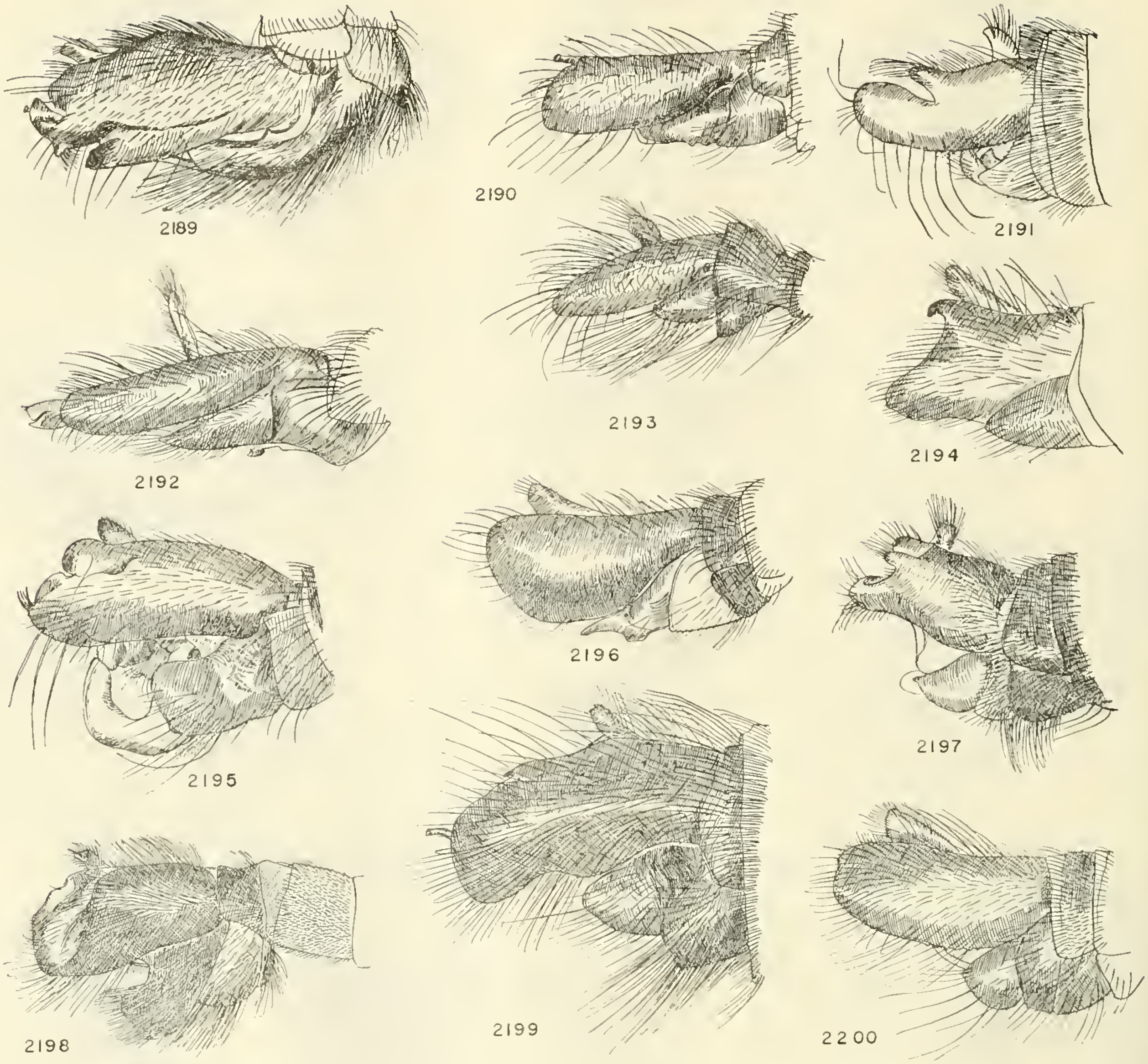
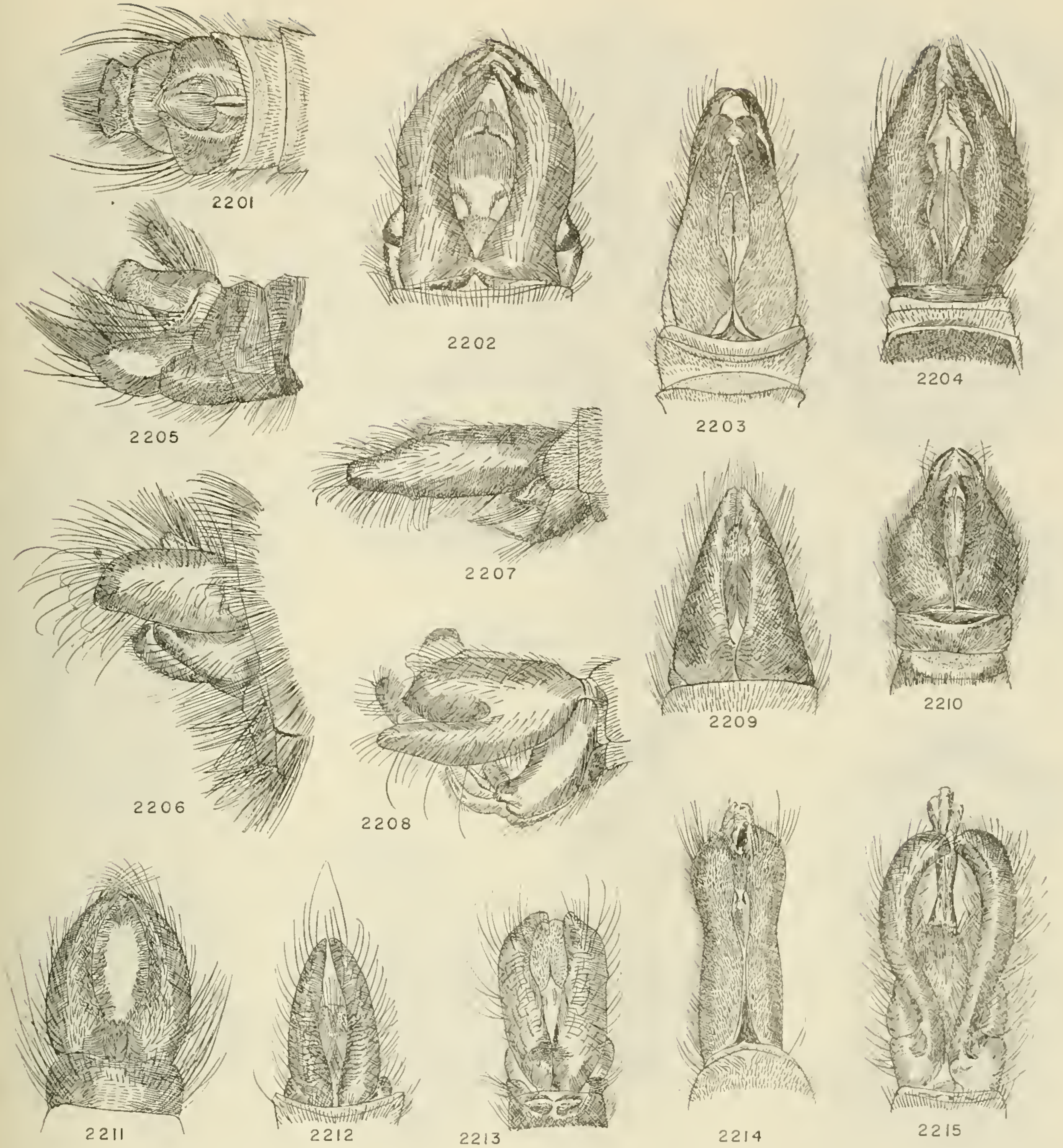
Figures 2176–2188.—Males. 2176, *Polyphonius laevigatus* Loew. 2177, *Stizolestes nigriventris* Philippi. 2178, *Cratolestes spectabilis* Philippi. 2179, *Hippomachus pegasus* Loew. 2180, *Strophipogon bromleyi* Bromley. 2181, *Apotinocerus brevistylatus* Wulp. 2182, *Haplonota elegans* Frey. 2183, *Ommatius marginellus* Fabricius. 2184, *Apoclea algira* Linné. 2185, *Lecania rufipes* Macquart. 2186, *Glaphyropyga himantocera* Wiedemann. 2187, *Glaphyropyga pollinifera* Carrera. 2188, *Acanthopleura brunnipes* Fabricius.



Figures 2189–2200.—Males. 2189, *Nerax aestuans* Linné. 2190, *Promachina trapezoidalis* Bellardi. 2191, *Hoplopheromerus hirtiventris* Becker. 2192, *Promachus* (*Enagaedium*) *poetinus* Walker. 2193, *Promachus* (*Trypanoides*) *yerburiensis* Ricardo. 2194, *Chilesus geminatus* Bromley. 2195, *Cnodalomyia obtusa*, new species. 2196, *Lycoprosopa atrimaculata* Hobby. 2197, *Lycomya germainii* Bigot. 2198, *Pararatus macrostylus* Loew. 2199, *Anacinaces rufiventris* Macquart. 2200, *Regasilus strigaria* Curran.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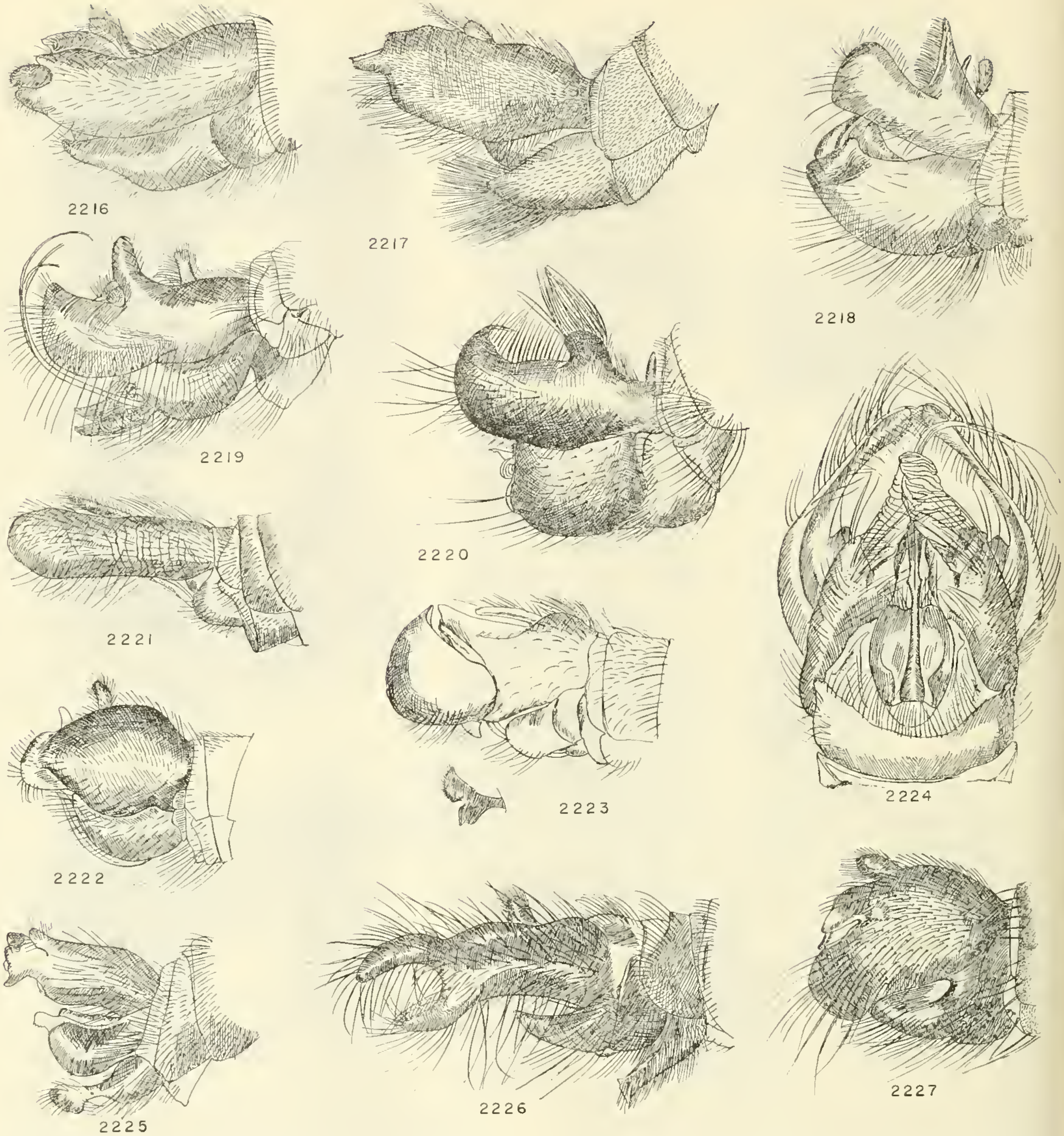
FIGURES 2201–2215.—Males. 2201, *Catostola carrerai* Hull. 2202, *Cobalomyia fanovanensis* Bromley. 2203, *Lochmorhynchus griseus* Guérin. 2204, *Cratolestes spectabilis* Philippi. 2205, *Catostola carrerai* Hull. 2206, *Mallophora rex* Bromley. 2207, *Promachus griseiventris* Becker. 2208, *Cinadus* (*Chaetogonophora*) *chaetoprocta*. new species. 2209, *Regasilus strigaria* Curran. 2210, *Pararatus macrostylus* Loew. 2211, *Stizolestes nigriventris* Philippi. 2212, *Promachus* (*Trypanoides*) *yerburiensis* Ricardo. 2213, *Promachina trapezoidalis* Bellardi. 2214, *Nerax aestuans* Linné. 2215, *Promachus* (*Enagaedium*) *poetinus* Walker.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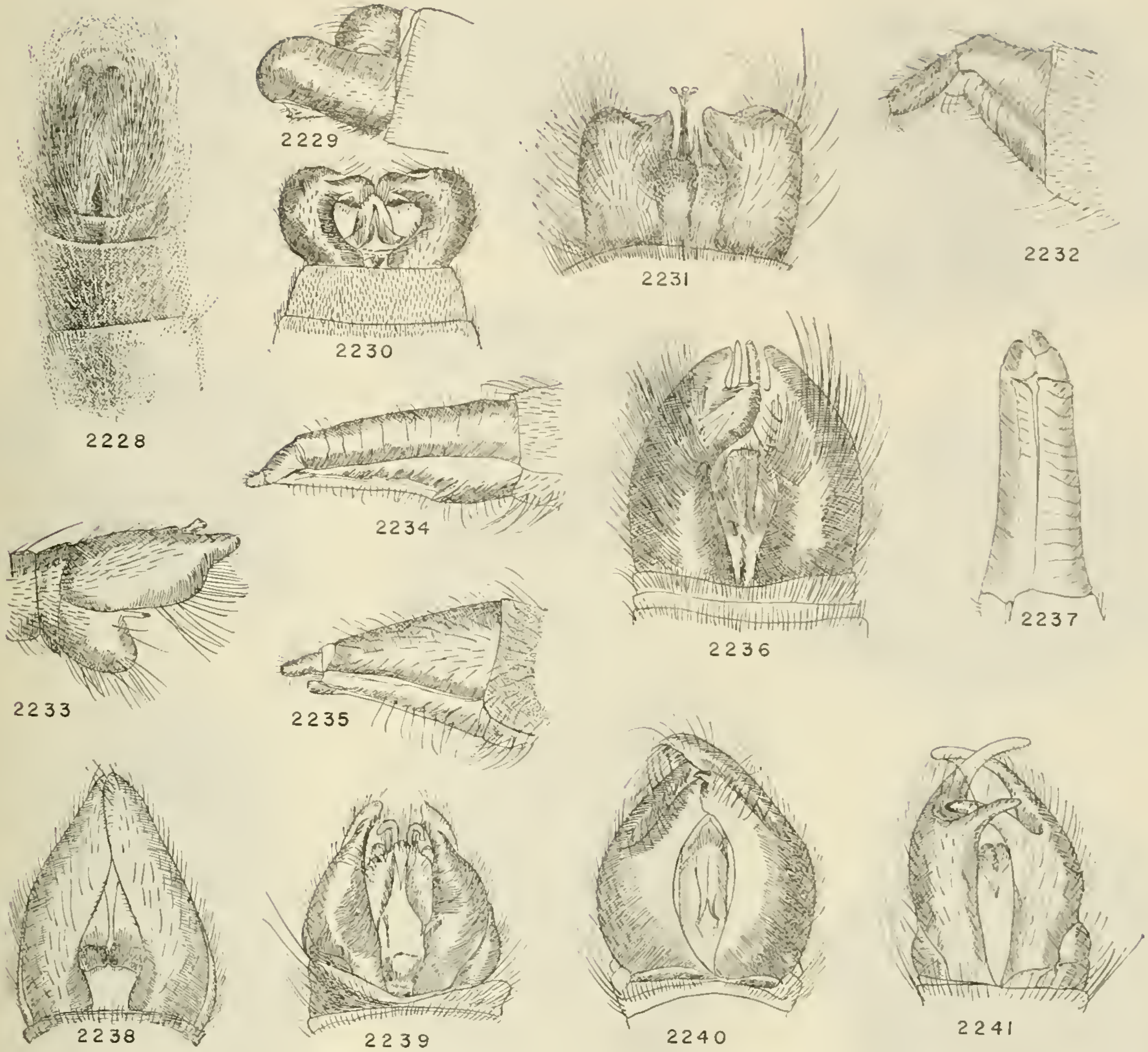
FIGURES 2216–2227.—Males. 2216, *Cobalomyia fanovanensis* Bromley. 2217, *Lochmorhynchus griseus* Guérin. 2218, *Lestophonax mallophoroides*, new species. 2219, *Cinadus vicinus*, new species. 2220, *Threnia carbonaria* Wiedemann. 2221, *Dysclytus firmatus* Walker. 2222, *Erax punctatus* Meigen. 2223, *Oligoschema* sp. 2224, *Cinadus vicinus*, new species, ventral. 2225, *Philonerax mucidus* Walker. 2226, *Neoaratus hercules* Wiedemann. 2227, *Cratopoda gayi* Macquart.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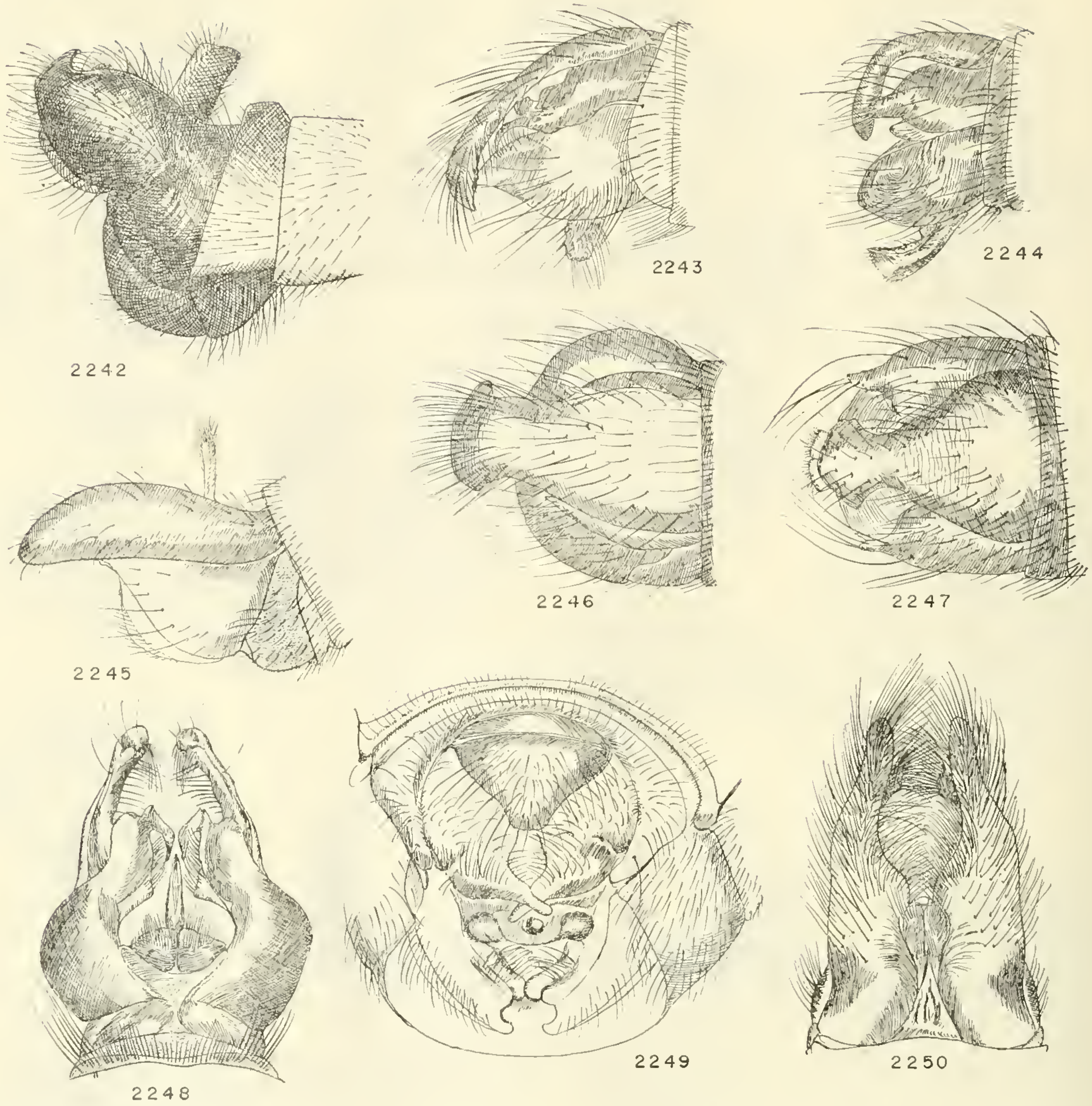
Figures 2228–2241.—Males. 2228, *Apoclea algira* Linné. 2229, *Polysarca violacea* Schiner. 2230, *Polysarca violacea* Schiner. 2231, *Mallophora rex* Bromley. 2232, *Oligoschema contorta* Walker. 2233, *Megadrillus brevipennis* Macquart. 2234, *Erax punctatus* Meigen. 2235, *Polyphonius laevigatus* Loew. 2236, *Anacinaces rufiventris* Macquart. 2237, *Dysclytus firmatus* Walker. 2238, *Negasilus belli* Curran. 2239, *Ommatius marginellus* Fabricius. 2240, *Cinadus* (*Chaetogonophora*) *chaetoprocta*, new species. 2241, *Strophipogon bromleyi* Hull.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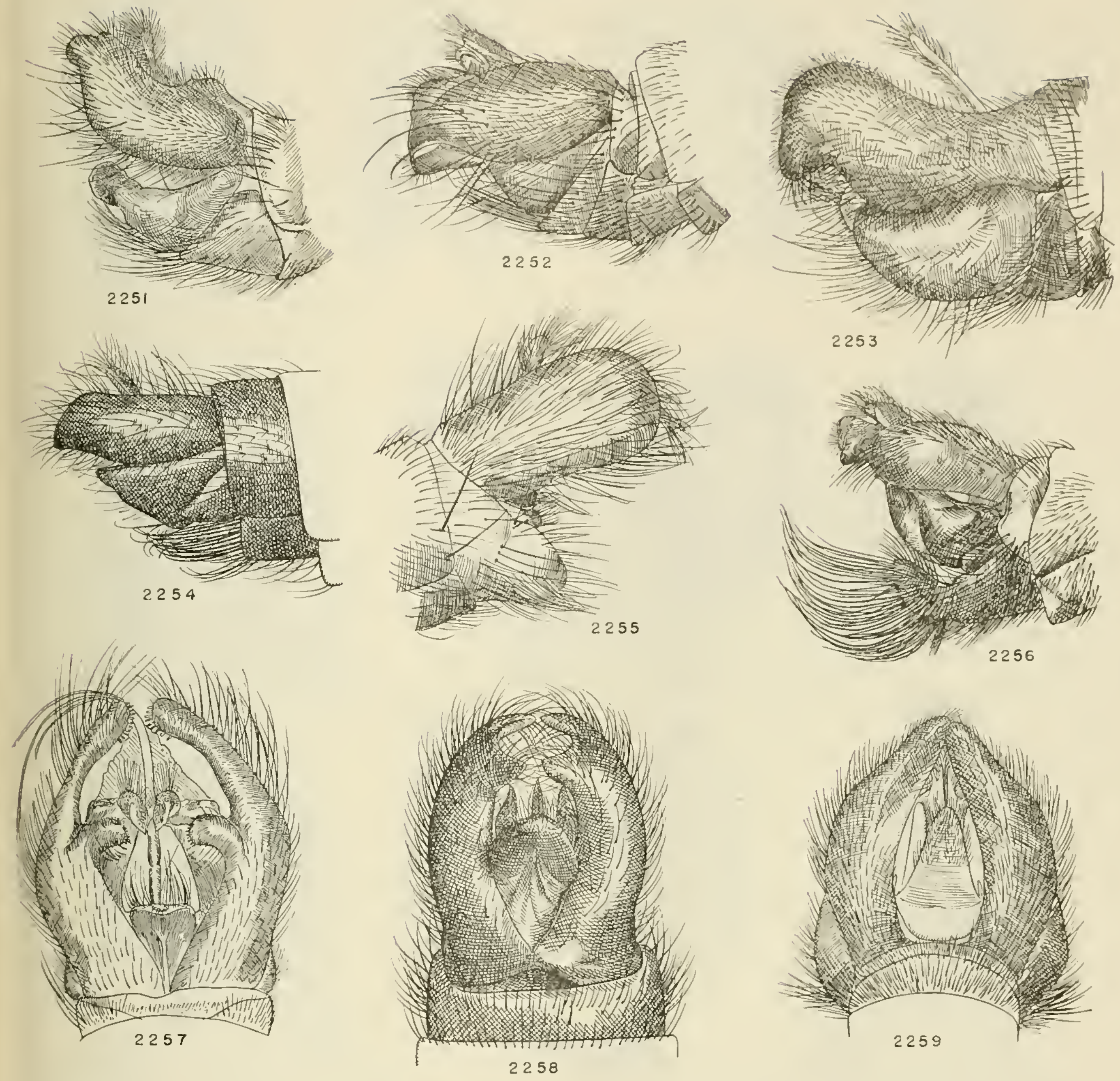
FIGURES 2242–2250.—Males. 2242, *Leptogaster cylindrica* De Géer. 2243, *Aplestobroma avida* Hull. 2244, *Broticosia*, new species. 2245, *Negasilus belli* Curran. 2246, *Aplestobroma avida* Hull, ventral. 2247, *Broticosia*, new species. 2248, *Haplonota elegans* Frey. 2249, *Margaritola mirabilis* Hull. 2250, *Neoaratus hercules* Wiedemann.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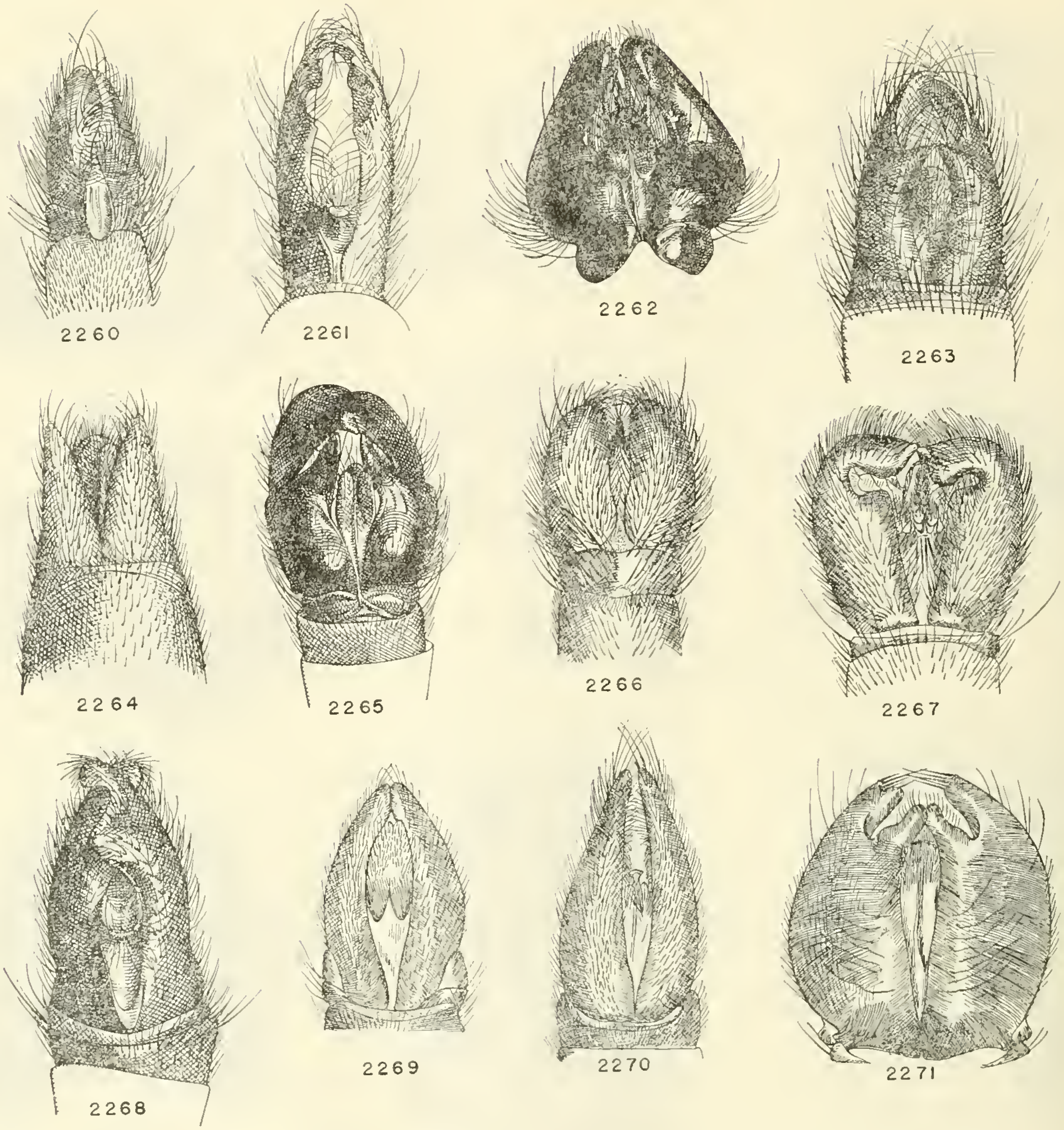
FIGURES 2251–2259.—Males. 2251, *Nyssoprosopa pollinosa*, new species. 2252, *Eicherax nigripes* Bellardi. 2253, *Dinozabrus bicolor*, new species. 2254, *Anarmostus iopterus* Wiedemann. 2255, *Hobbyus nigroflavipes* Hobby. 2256, *Lonchodogonus cribatus* Hull. 2257, *Cinadus vicinus*, new species. 2258, *Pamponerus germanicus* Linné. 2259, *Dinozabrus bicolor*, new species.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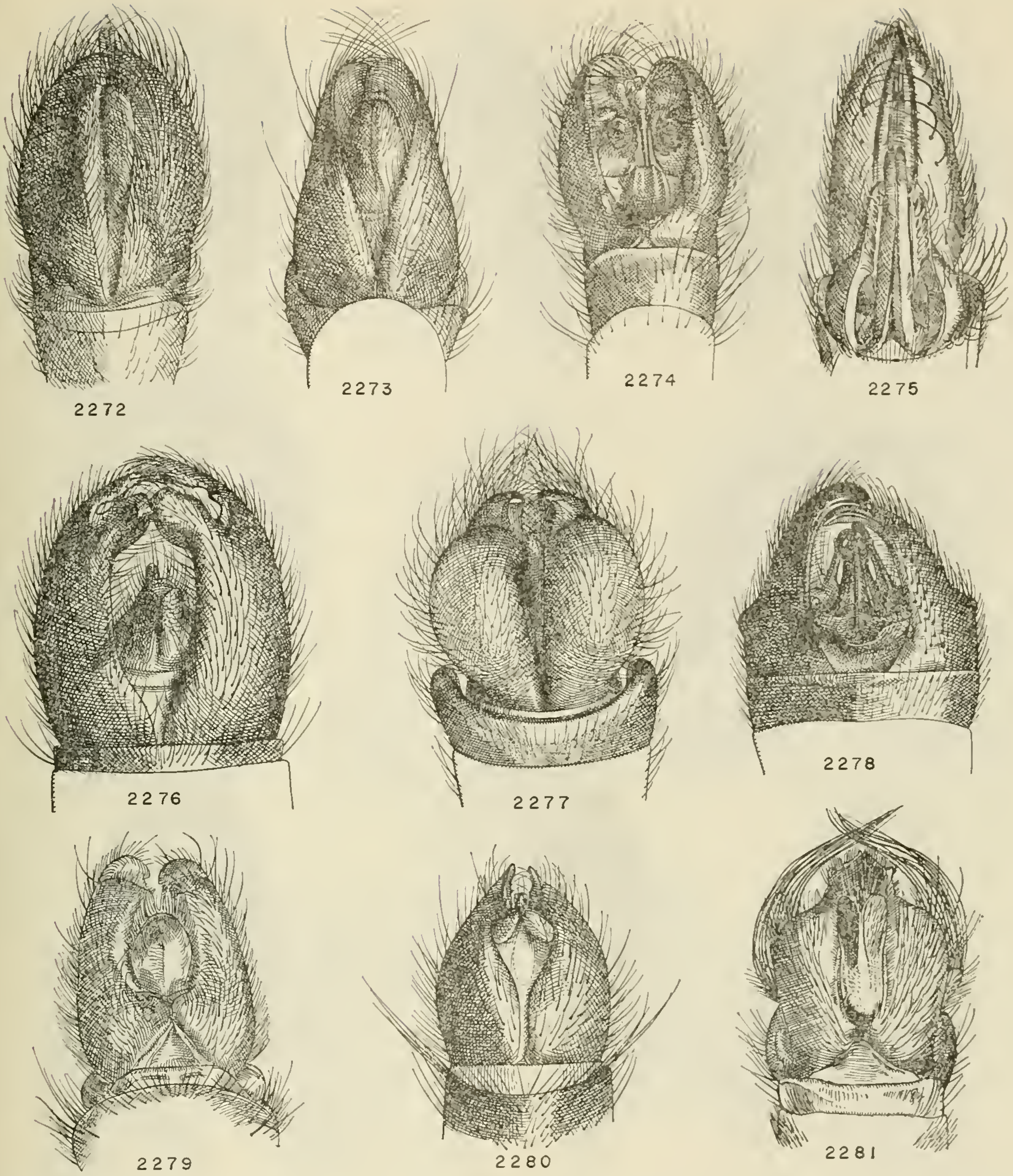
Figures 2260–2271.—Males. 2260, *Nyssomyia ochracea*, new species. 2261, *Clephydroneura sundaicus* Jaennicke. 2262, *Heligmoneura modesta* Bigot. 2263, *Philonicus albiceps* Meigen. 2264, *Eccoptopus longitarsis* Macquart. 2265, *Oligoschema* sp. 2266, *Labromyia albibarbis*, new species. 2267, *Myaptex hermanni*, new species. 2268, *Stilpnogaster aemula* Meigen. 2269, *Lycoprosopa atrimaculata* Hobby. 2270, *Promachus griseiventris* Becker. 2271, *Cnodalomyia obtusa*, new species.



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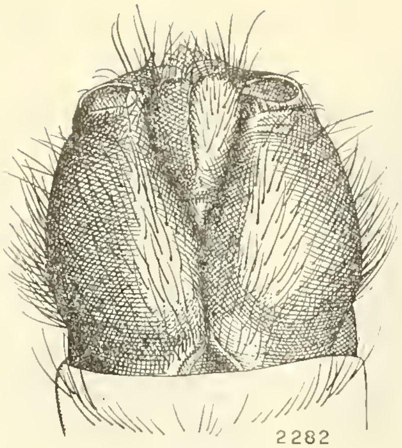
FIGURES 2272–2281.—Males. 2272, *Alcimus rubiginosus* Gerstaecker. 2273, *Hippomachus pegasus* Loew. 2274, *Neoitamus cyanurus* Loew. 2275, *Acanthopleura ravus* Loew, ventral. 2276, *Echthistus rufinervis* Meigen. 2277, *Polyphonius laevigatus* Loew. 2278, *Leptogaster cylindrica* De Géer. 2279, *Nyssoprosopa pollinosa*, new species. 2280, *Michotamia* sp. 2281, *Lonchodogonus cribratus*, new species.



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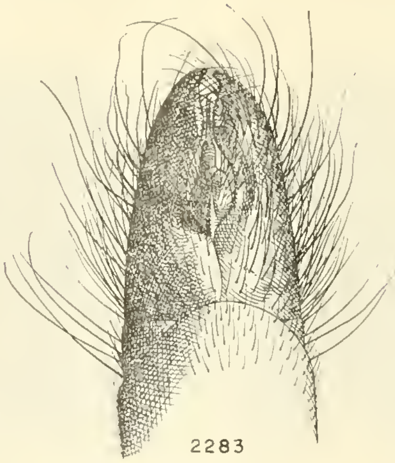

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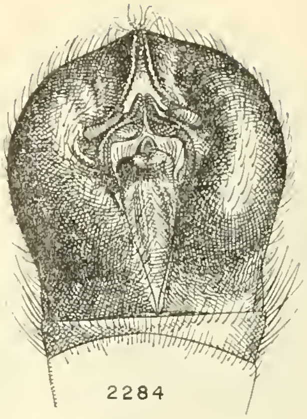

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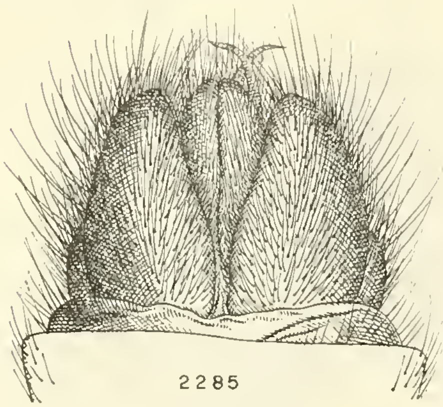

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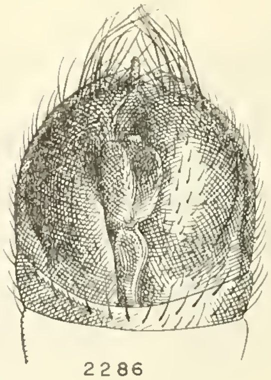

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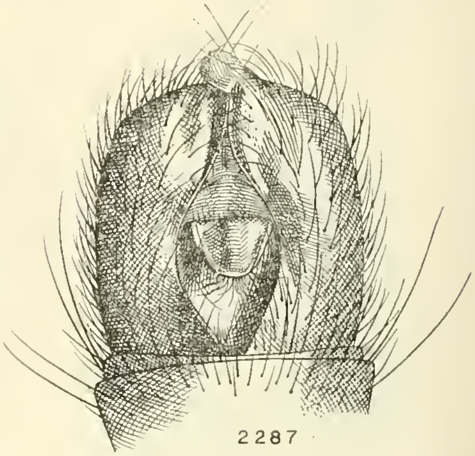

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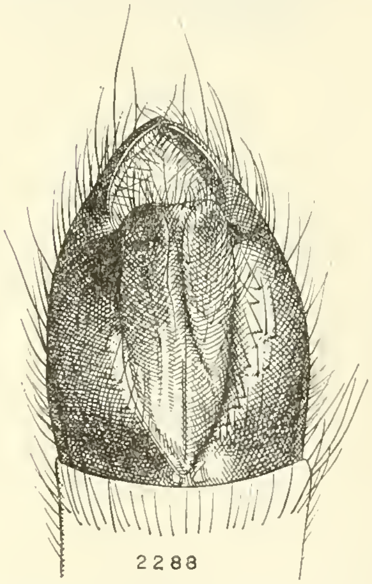

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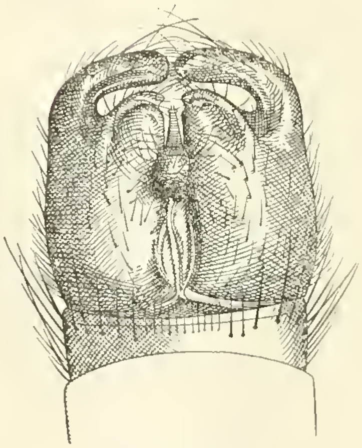

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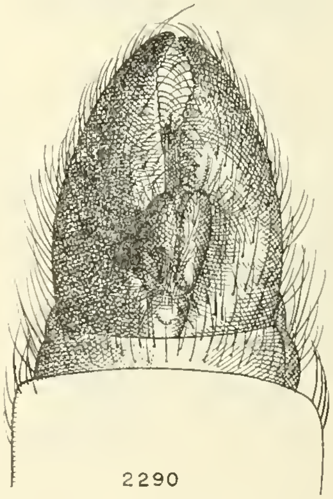

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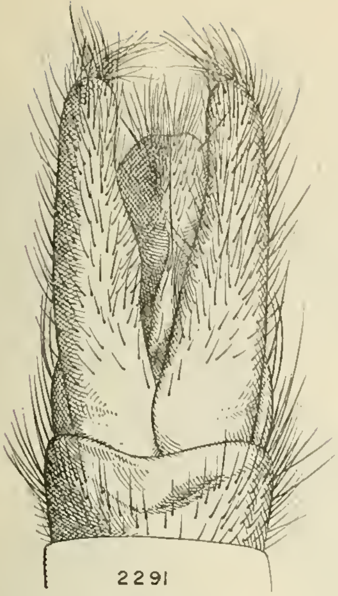
FIGURES 2282–2290.—Males. 2282, *Cophinopoda* sp. 2283, *Neodasophrys androclea* Walker. 2284, *Erax punctatus* Meigen. 2285, *Eccritosia amphinome* Walker. 2286, *Neolophonotus* (*Lophopeltis*) *albopilosus* Ricardo. 2287, *Cerdistus erythrurus* Loew. 2288, *Orophotus montanus* Ricardo. 2289, *Lycomya germainii* Bigot. 2290, *Asilus crabroniformis* Linné.



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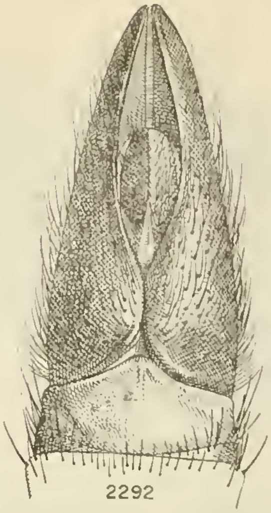

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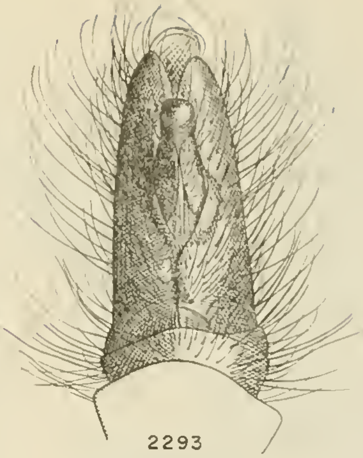

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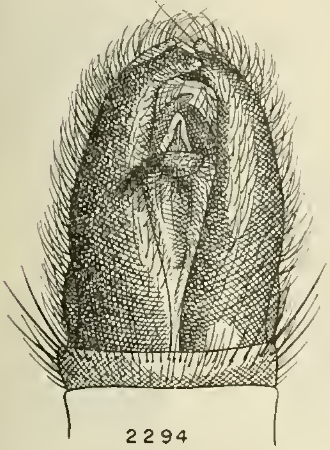

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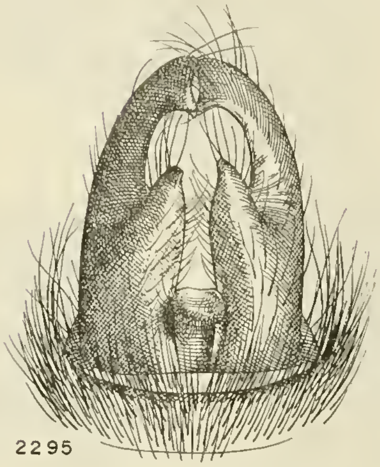

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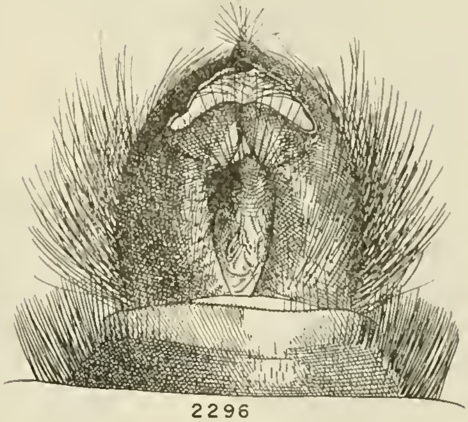

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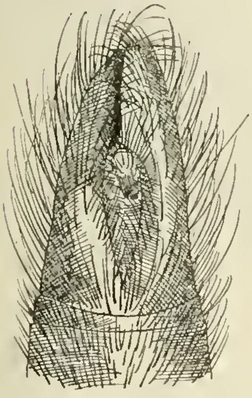

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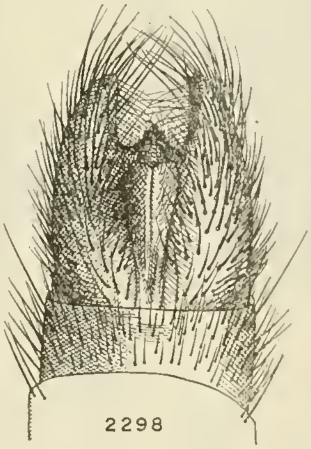

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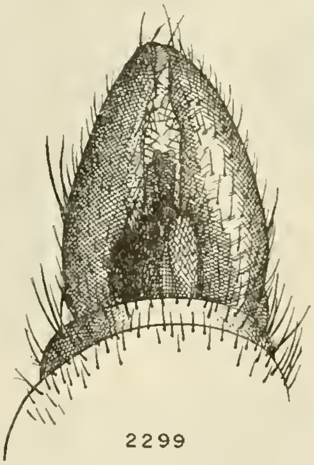

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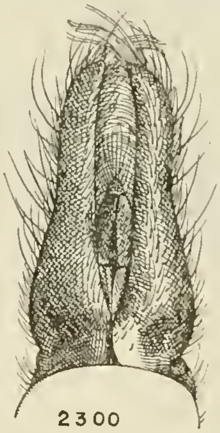

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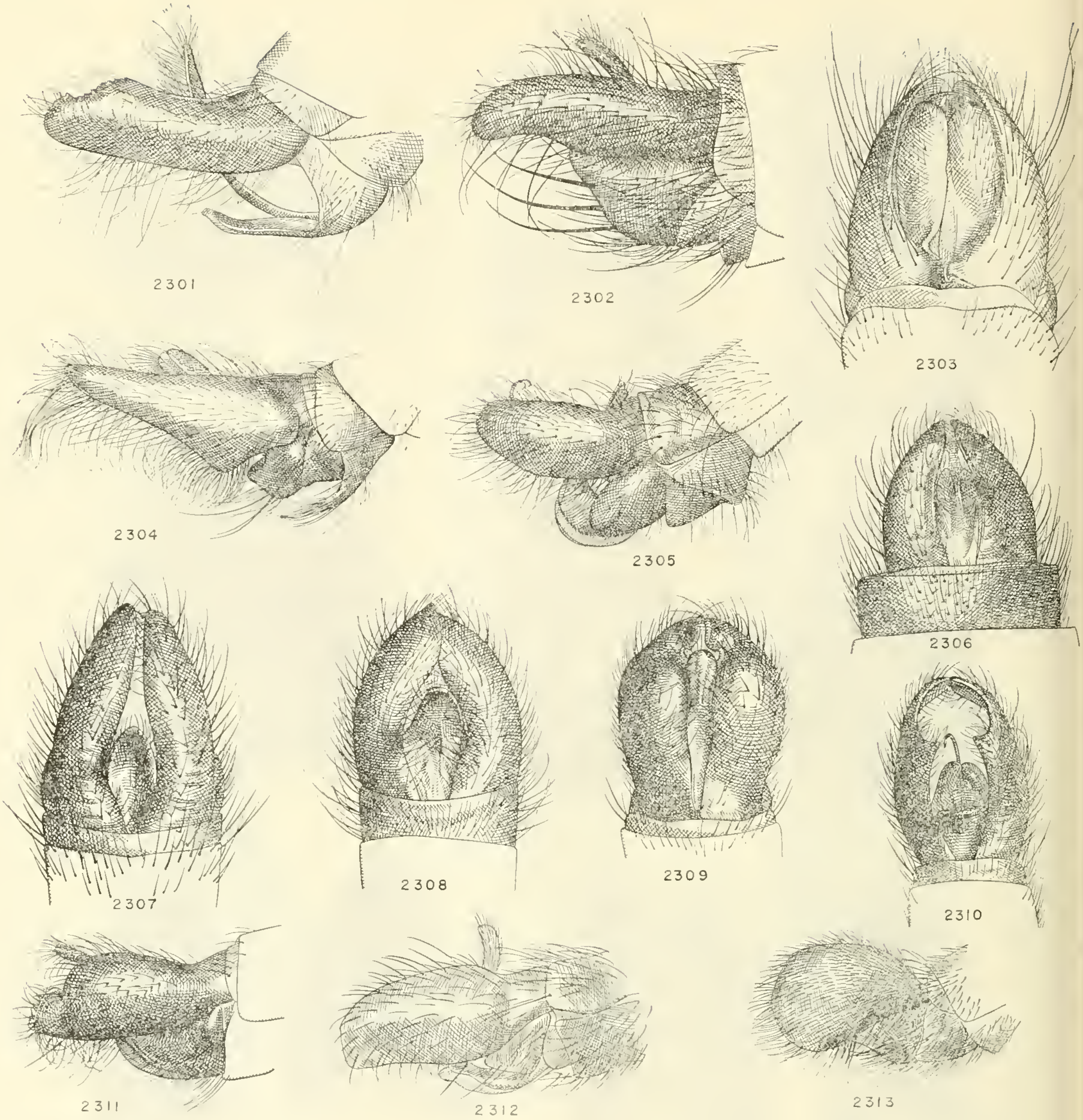
Figures 2291–2300.—Males. 2291, *Proctacanthus philadelphicus* Macquart. 2292, *Dysclytus firmatus* Walker. 2293, *Dasophrys hypselopterus* Engel. 2294, *Dysmachus trigonus* Meigen. 2295, *Hoplopheromerus hirtiventris* Becker. 2296, *Blepharotes splendidissimus* Wiedemann. 2297, *Hobbyus nigroflavipes* Hobby. 2298, *Chilesus geminatus* Bromley. 2299, *Tolmerus pyragra* Zeller. 2300, *Synolcus tenuiventris* Loew.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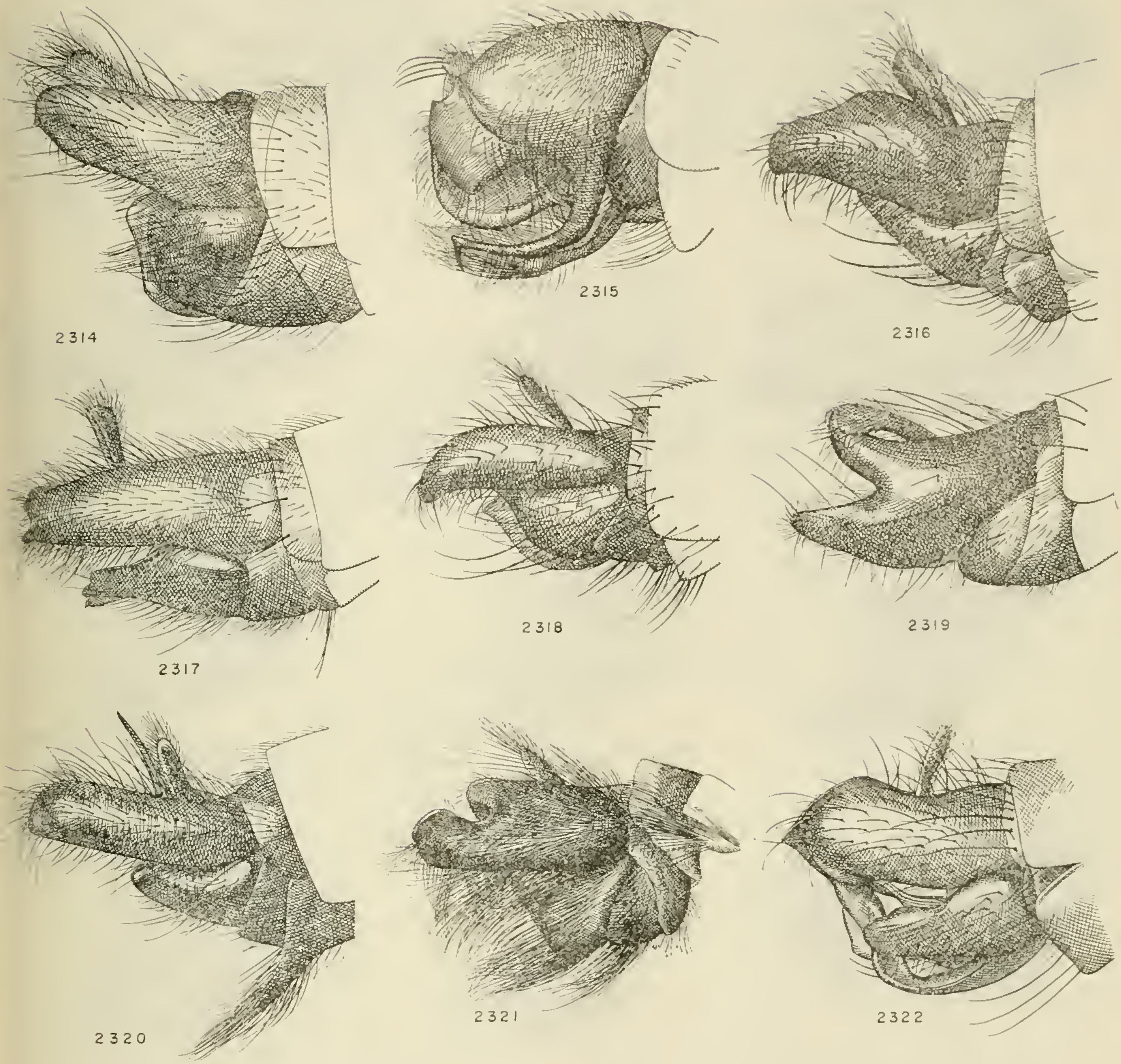
Figures 2301–2313.—Males. 2301, *Clephydroneura sundaicus* Jaennicke. 2302, *Antiphrisson trifarius* Loew. 2303, *Proctacanthella leucopogon* Williston. 2304, *Synolcus tenuiventris* Loew. 2305, *Neoitamus cyanurus* Loew. 2306, *Anarmostus iopterus* Wiedemann. 2307, *Epitriptus cingulatus* Fabricius. 2308, *Machimus chrysitis* Meigen. 2309, *Neomoctherus pallipes* Meigen. 2310, *Rhadiurgus variabilis* Zetterstedt. 2311, *Neomoctherus pallipes* Meigen. 2312, *Senoprosopis impendens* Wiedemann, type. 2313, *Myaptex* sp.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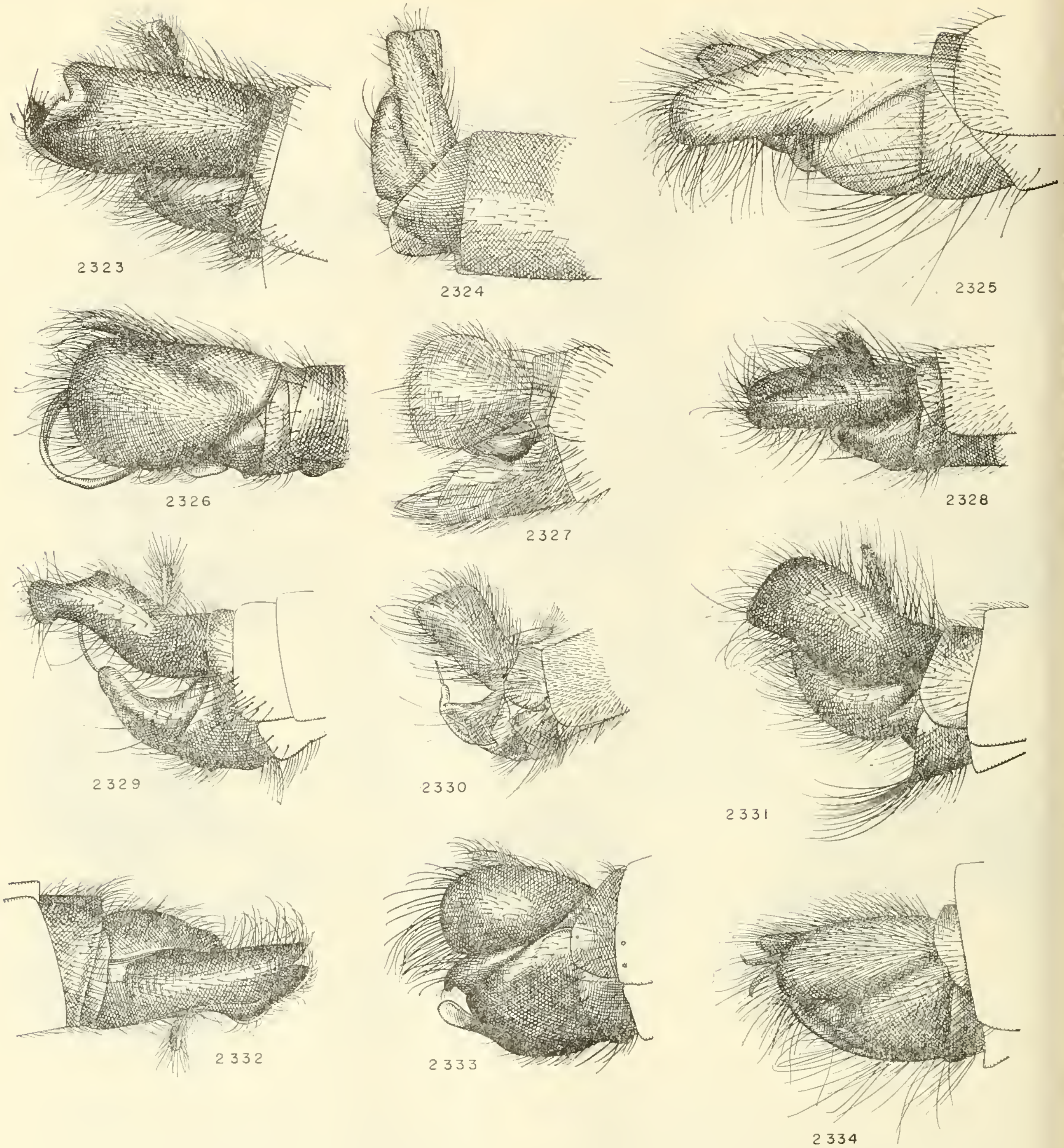
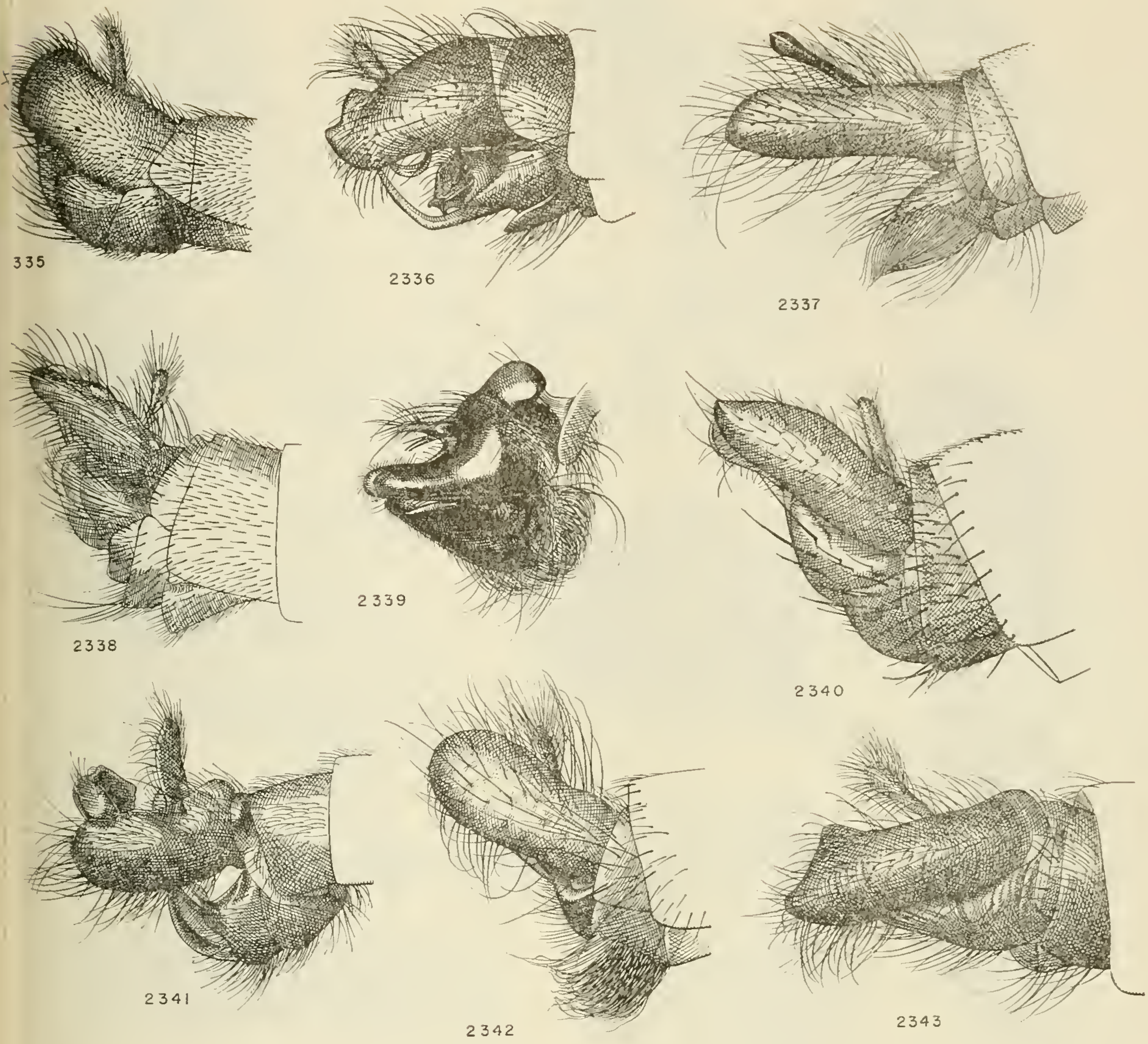
FIGURES 2314–2322.—Males. 2314, *Proctacanthella leucopogon* Williston. 2315, *Cophinopoda* sp. 2316, *Asilus crabroniformis* Linné. 2317, *Dysmachus trigonus* Meigen. 2318, *Epitriptus cingulatus* Fabricius. 2319, *Orophotus montanus* Ricardo. 2320, *Eutolmus rufibarbis* Meigen. 2321, *Blepharotes splendidissimus* Wiedemann. 2322, *Cerdistus erythrurus* Meigen.



Figures 2323–2334.—Males. 2323, *Echthistus rufinervis* Meigen. 2324, *Eccoptopus longitarsis* Macquart. 2325, *Proctacanthus philadelphicus* Macquart. 2326, *Alcimus rubiginosus* Gerstaeker. 2327, *Labromyia albibarbis*, new species. 2328, *Philonicus albiceps* Meigen. 2329, *Rhadiurgus variabilis* Zetterstedt. 2330, *Nyssomyia ochracea*, new species. 2331, *Machimus chrysitis* Meigen. 2332, *Stilpnogaster aemula* Meigen. 2333, *Neolophonotus* (*Lophopeltis*) *albopilosus* Ricardo. 2334, *Eccritosia amphinome* Walker.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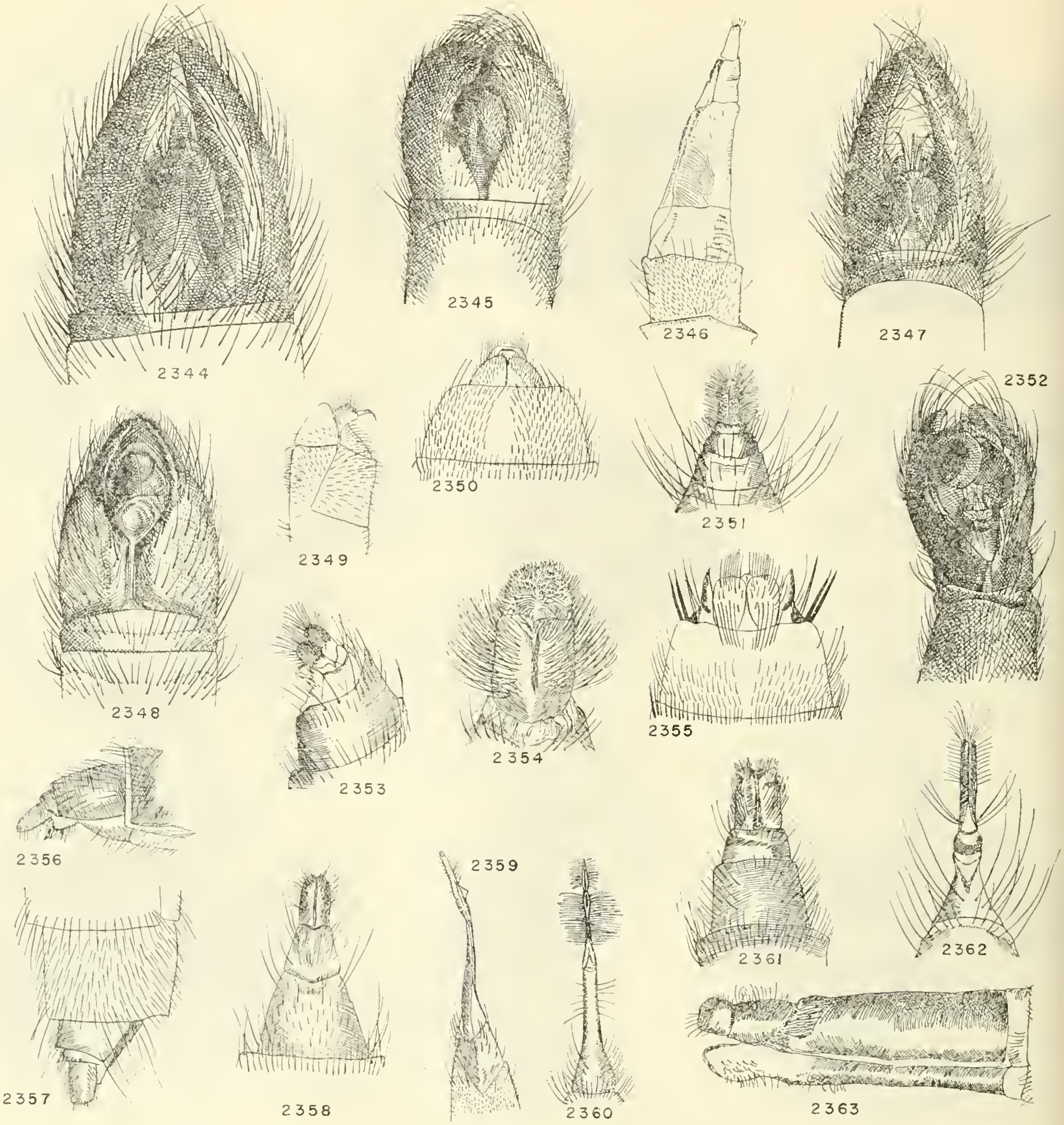
FIGURES 2335–2343.—Males. 2335, *Satanas gigas* Eversmann. 2336, *Michotamia* sp. 2337, *Dasophrys hypselopterus* Engel. 2338, *Acanthopleura brunnipes* Fabricius. 2339, *Heligmoneura modesta* Bigot. 2340, *Tolmerus pyragra* Zeller. 2341, *Astochia longistylus* Wiedemann. 2342, *Neodasophrys androclea* Walker. 2343, *Pamponerus germanicus* Linné.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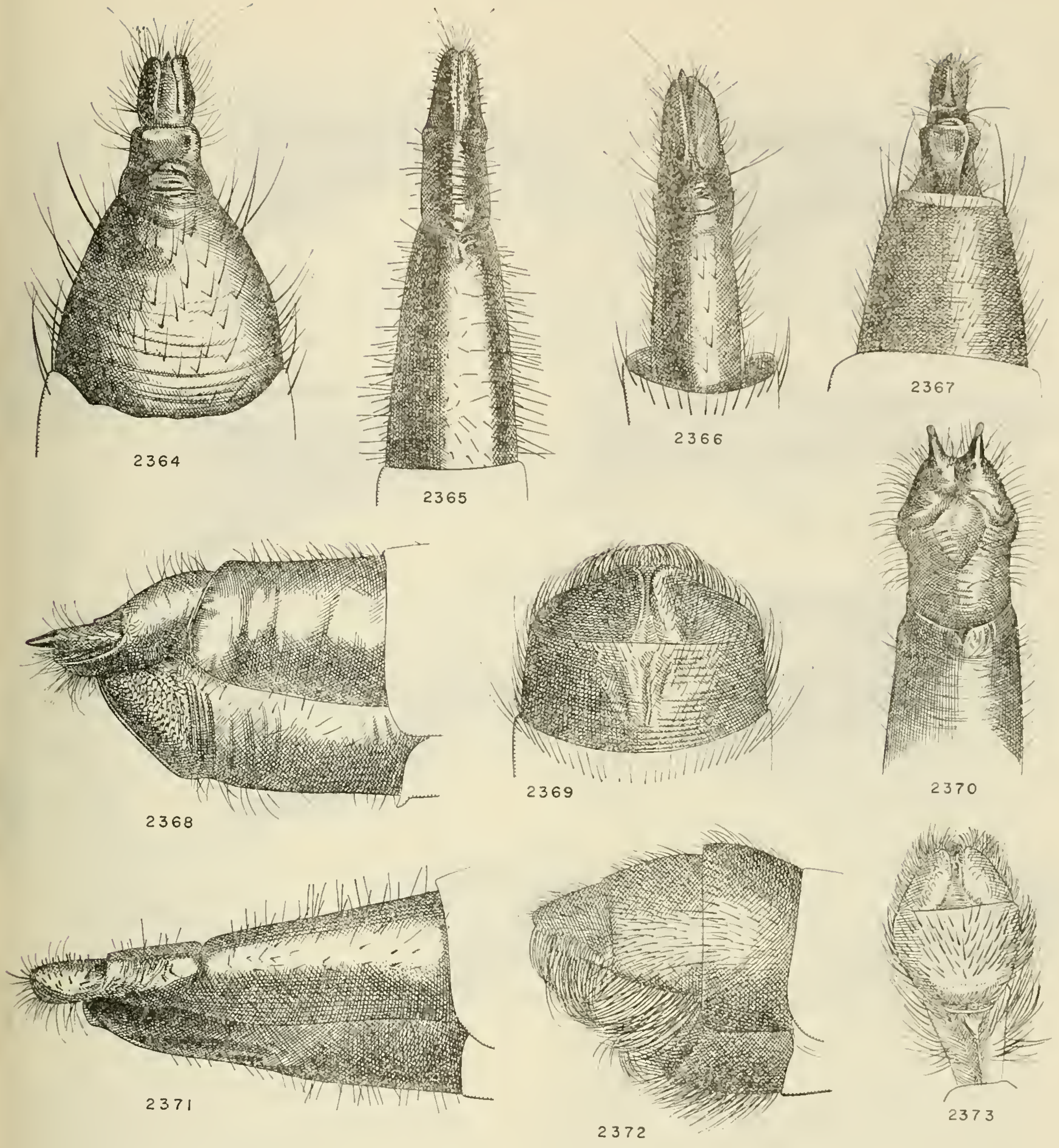
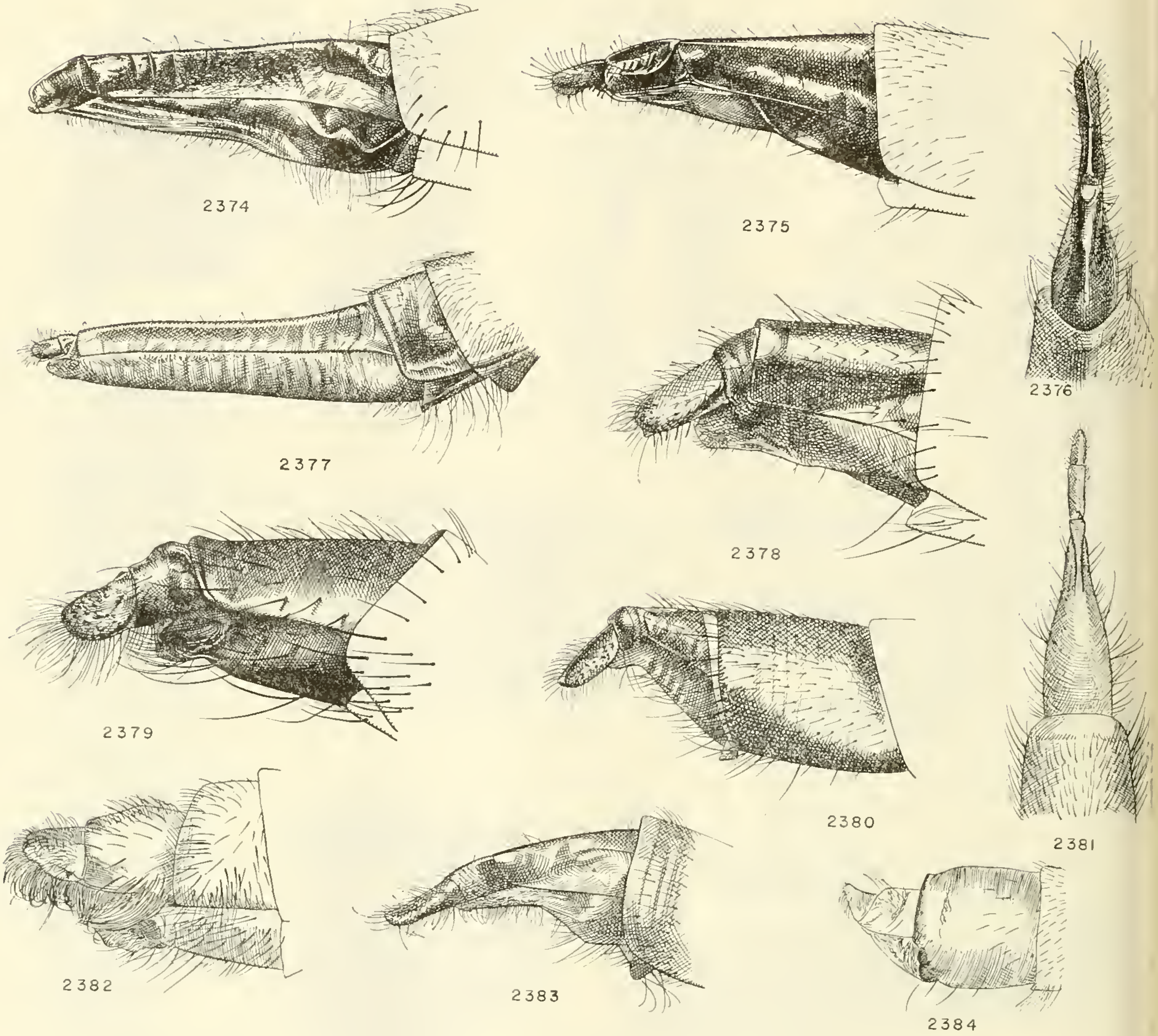
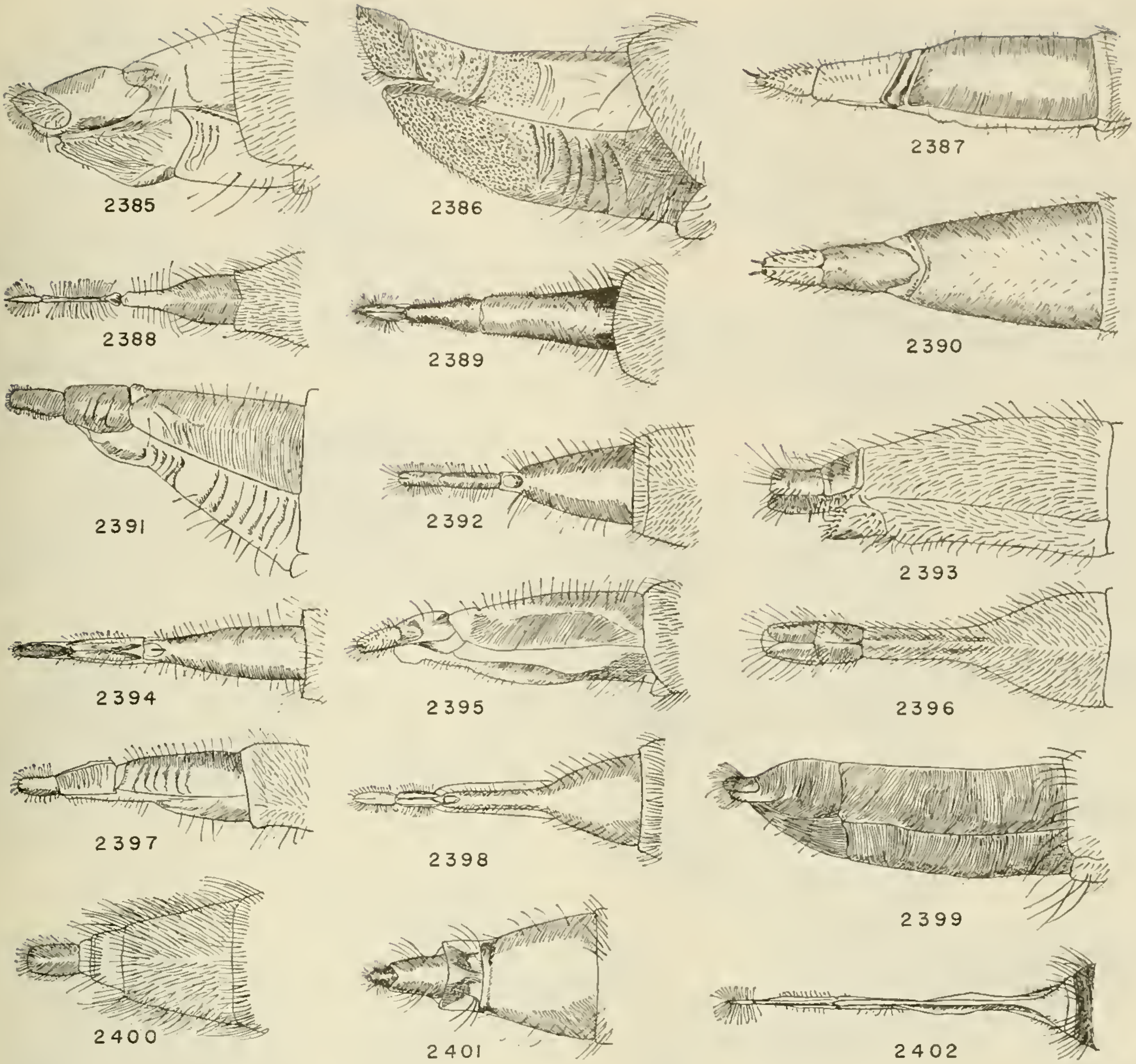
Figures 2344–2363.—Females, except as noted. 2344, *Antiphrisson trifarius* Loew, male. 2345, *Satanas gigas* Eversmann, male. 2346, *Leptoharpacticus mucius* Walker, lateral aspect of type. 2347, *Eutolmus rufibarbis* Meigen. 2348, *Megadrillus brevipennis* Macquart, male. 2349, *Megadrillus brevipennis* Macquart, lateral. 2350, *Michotamia aurata* Fabricius. 2351, *Stizolestes nigriventris* Philippi. 2352, *Astochia longistylus* Wiedemann, male. 2353, *Hoplopheromerus* sp. 2354, *Polysarca violacea* Schiner. 2355, *Cophinopoda chinensis* Fabricius. 2356, *Senoprosopis tenuis* Wiedemann, type. 2357, *Opopotes*, new species. 2358, *Lycomya germainii* Bigot. 2359, *Leptoharpacticus mucius* Walker, type. 2360, *Echthistus rufinervis* Meigen. 2361, *Haplonota elegans* Frey. 2362, *Anarmostus iopterus* Wiedemann. 2363, *Lochmorhynchus senectus* Wulp.



FIGURES 2364–2373.—Females. 2364, *Rhadiurgus variabilis* Zetterstedt. 2365, *Antiphrisson trifarius* Loew. 2366, *Heligmoneura modesta* Bigot. 2367, *Oligoschema contorta* Walker. 2368, *Neolophonotus* (*Lophopeltis*) *albopilosus* Ricardo. 2369, *Antipalus varipes* Meigen. 2370, *Neolophonotus* (*Lophopeltis*) *albopilosus* Ricardo. 2371, *Antiphrisson trifarius* Loew. 2372, *Antipalus varipes* Meigen. 2373, *Lonchodogonus cribratus*, new species.



Figures 2374–2384.—Females. 2374, *Erax punctatus* Meigen. 2375, *Acanthopleura brunnipes* Fabricius. 2376, *Stilpnogaster aemula* Meigen. 2377, *Neodasophrys androclea* Walker. 2378, *Heligmoneura modesta* Bigot. 2379, *Rhadiurgus variabilis* Zetterstedt. 2380, *Oligoschema contorta* Walker. 2381, *Nyssoprosopa pollinosa*, new species. 2382, *Lonchodogonus cribratus*, new species. 2383, *Stilpnogaster aemulus* Meigen. 2384, *Eicherax macularis* Wiedemann.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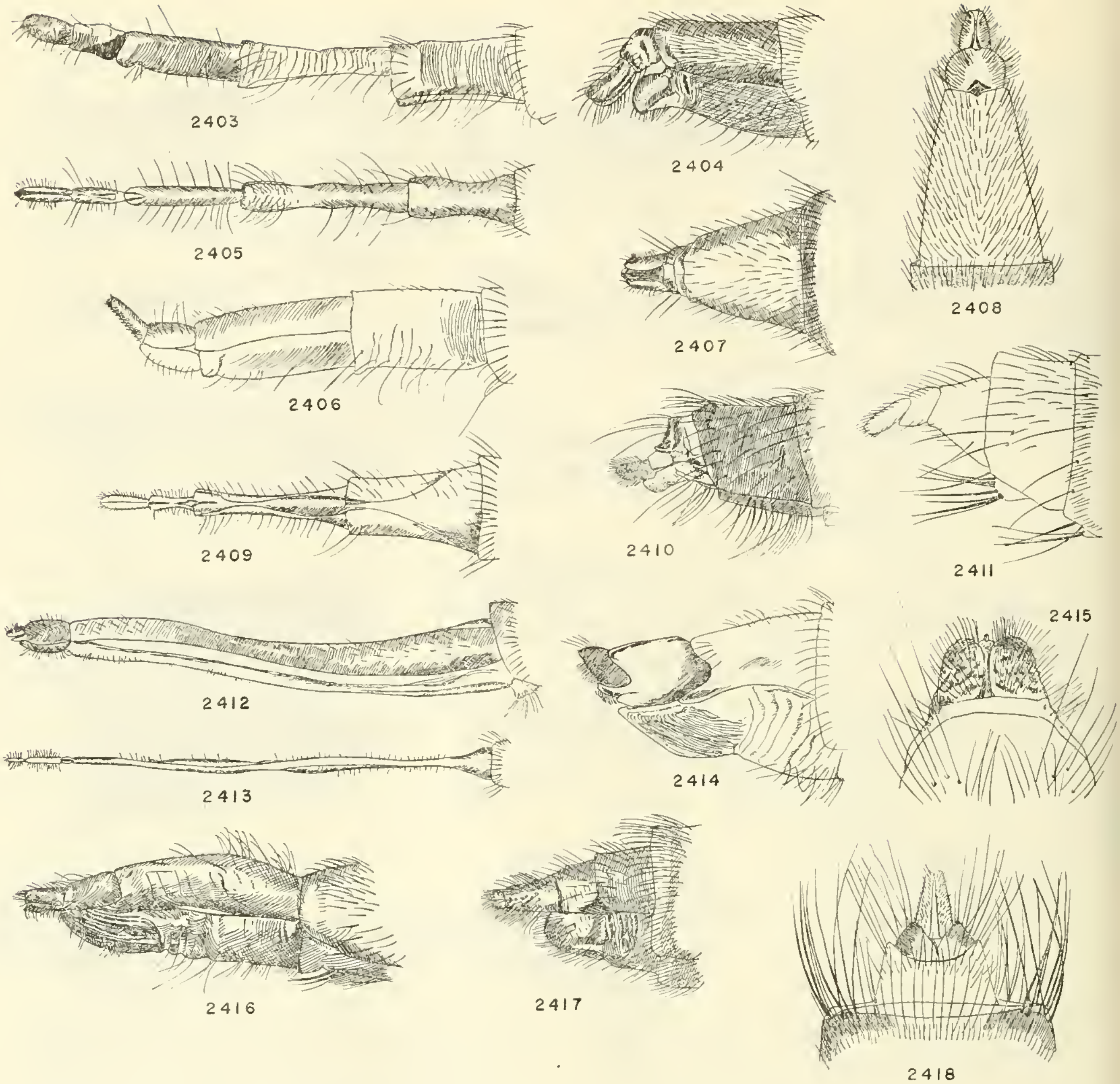
Figures 2385–2402.—Females. 2385, *Eutolmus rufibarbis* Meigen. 2386, *Dysmachus trigonus* Meigen. 2387, *Philodicus javanus* Wiedemann. 2388, *Eutolmus rufibarbis* Meigen. 2389, *Dysmachus trigonus* Meigen. 2390, *Philodicus javanus* Wiedemann. 2391, *Epitriptus cingulatus* Fabricius. 2392, *Negasilus belli* Curran. 2393, *Pararatus macrostylus* Loew. 2394, *Epitriptus cingulatus* Fabricius. 2395, *Neomoctherus longitudinalis* Loew. 2396, *Pararatus macrostylus* Loew. 2397, *Negasilus belli* Curran. 2398, *Neomoctherus longitudinalis* Loew. 2399, *Eichoichemus pyrrhomystax* Wiedemann. 2400, *Opopotes*, new species. 2401, *Eicherax macularis* Wiedemann. 2402, *Eichoichemus pyrrhomystax* Wiedemann.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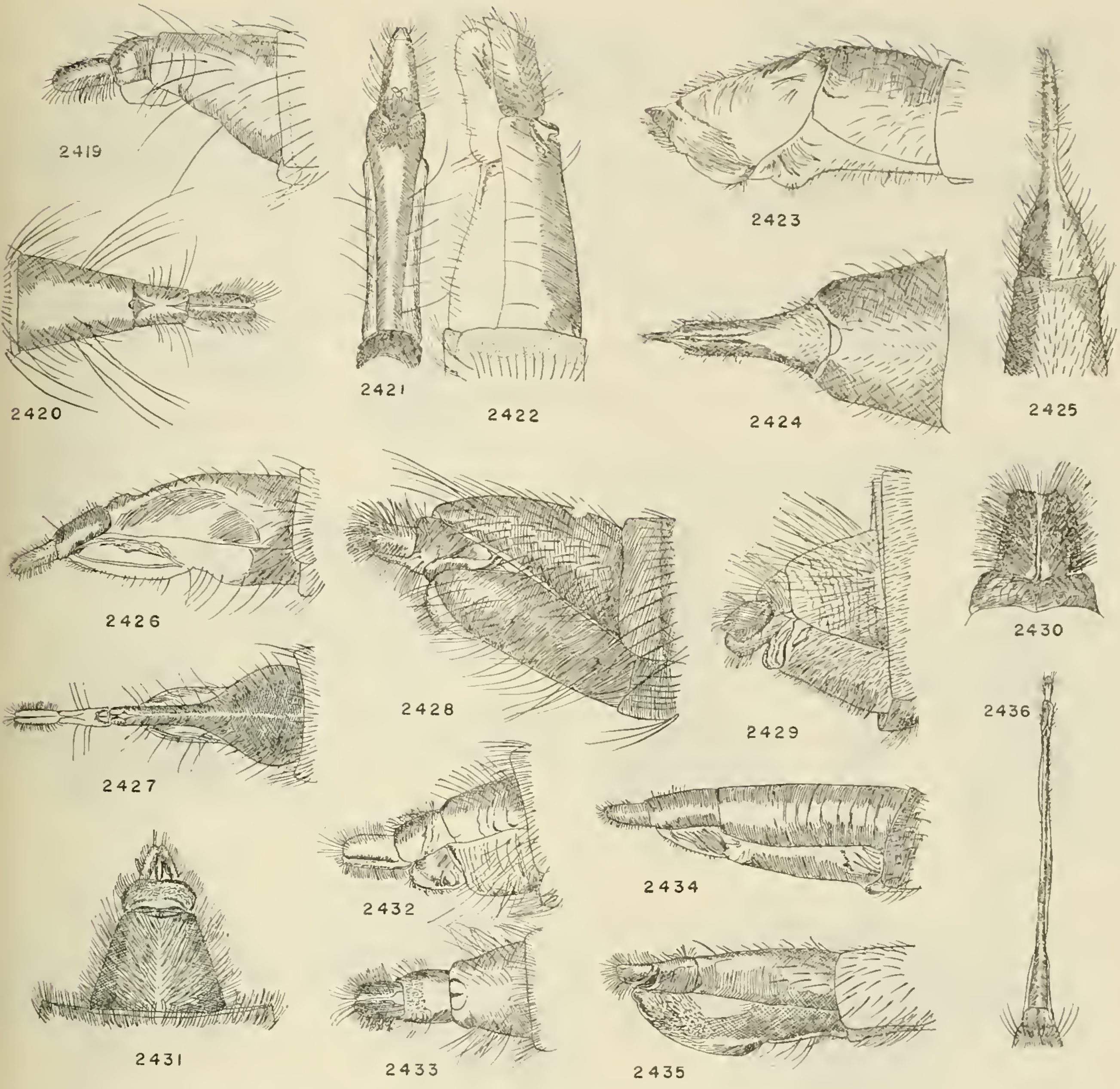
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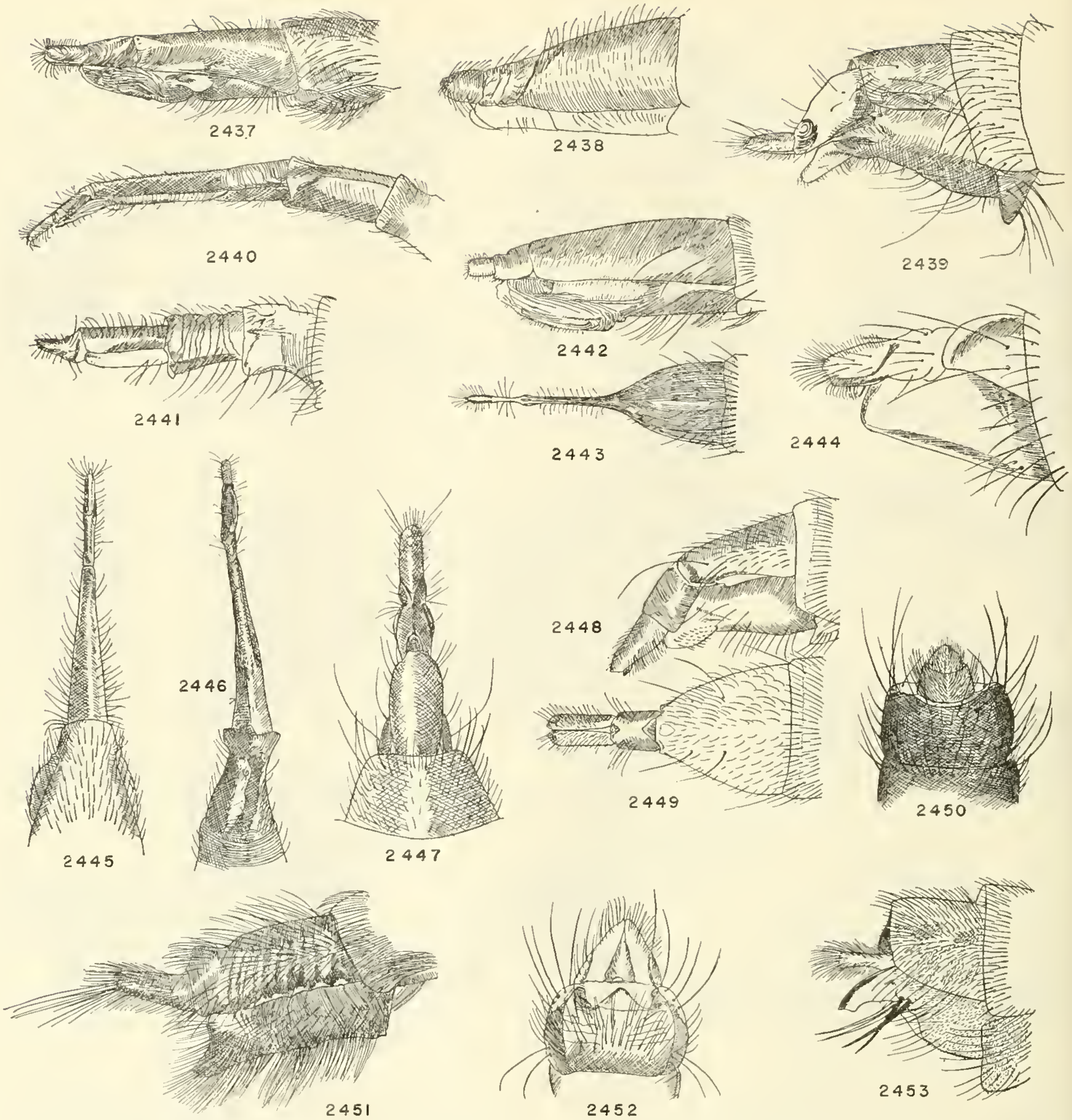
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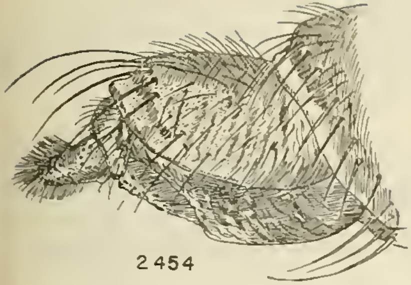
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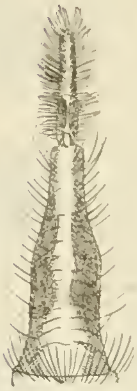
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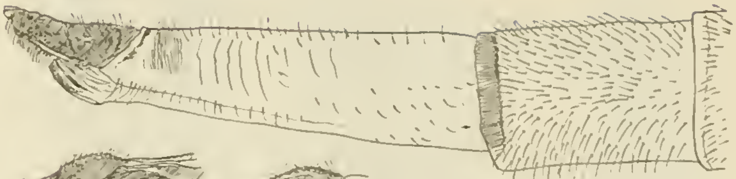
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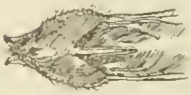
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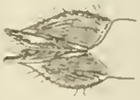
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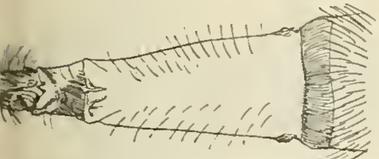
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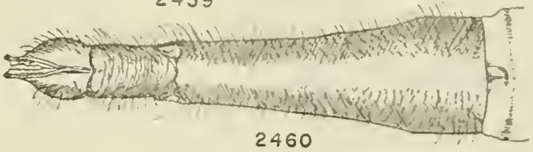
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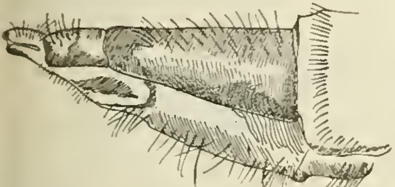
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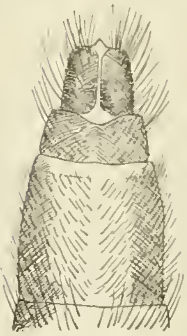
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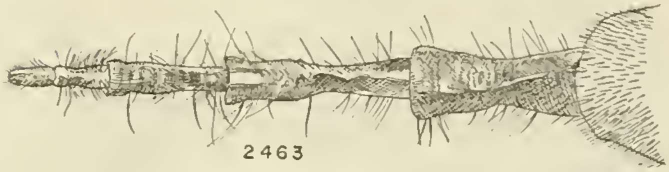
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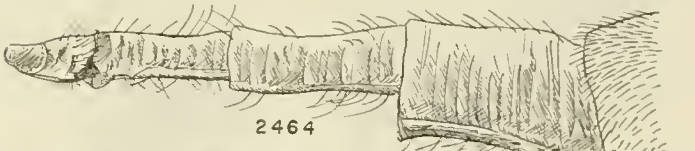
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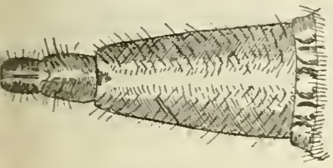
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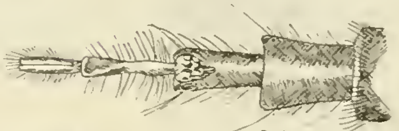
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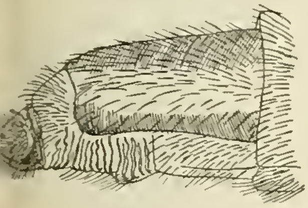
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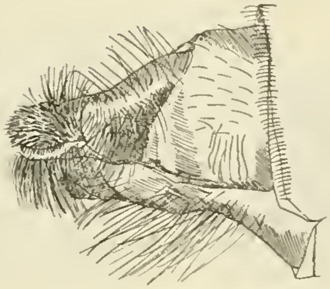
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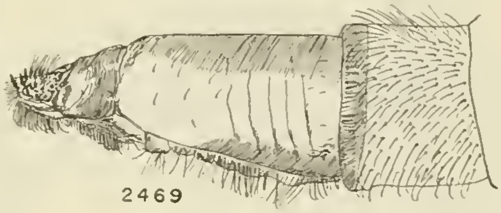
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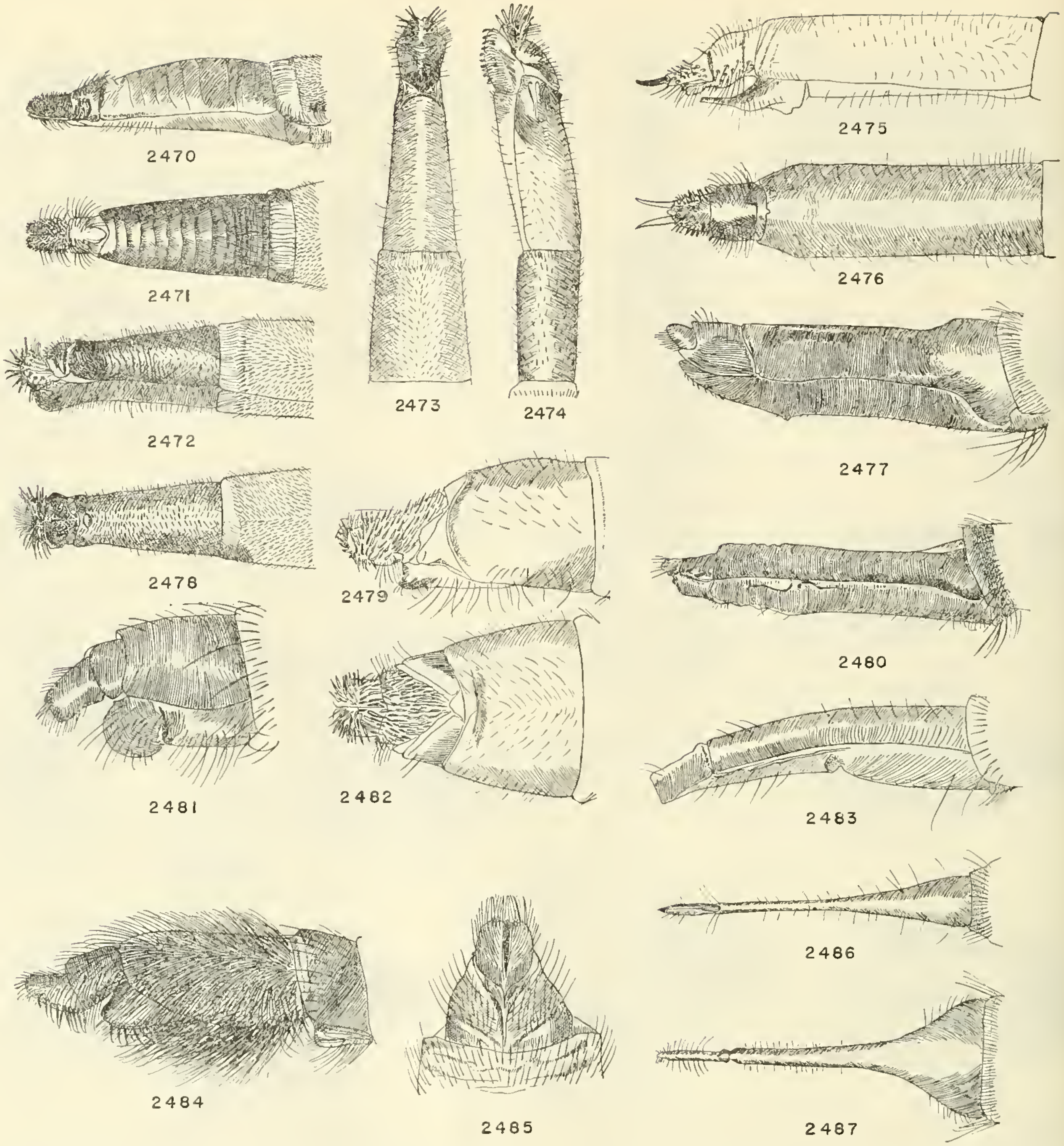
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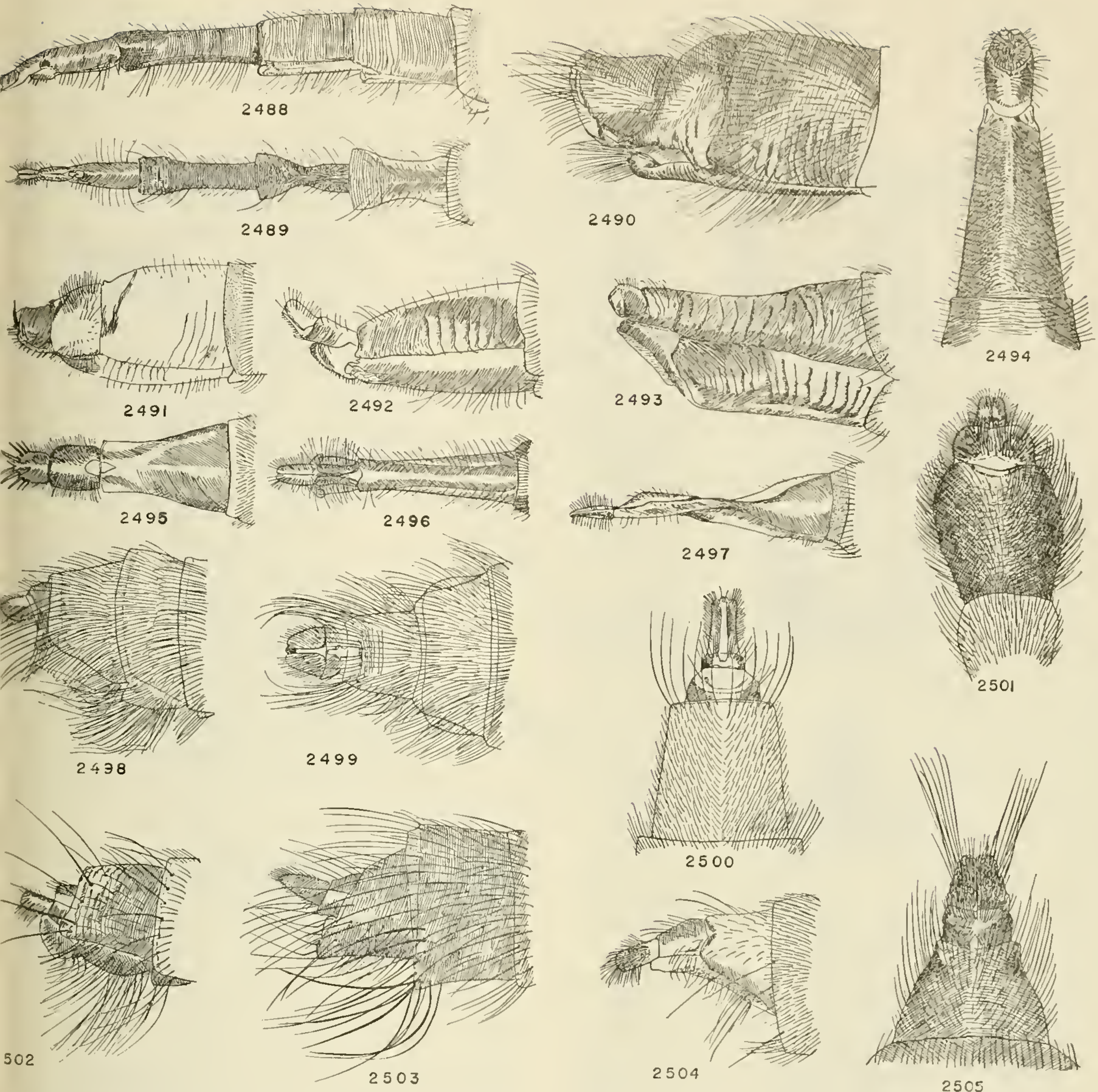
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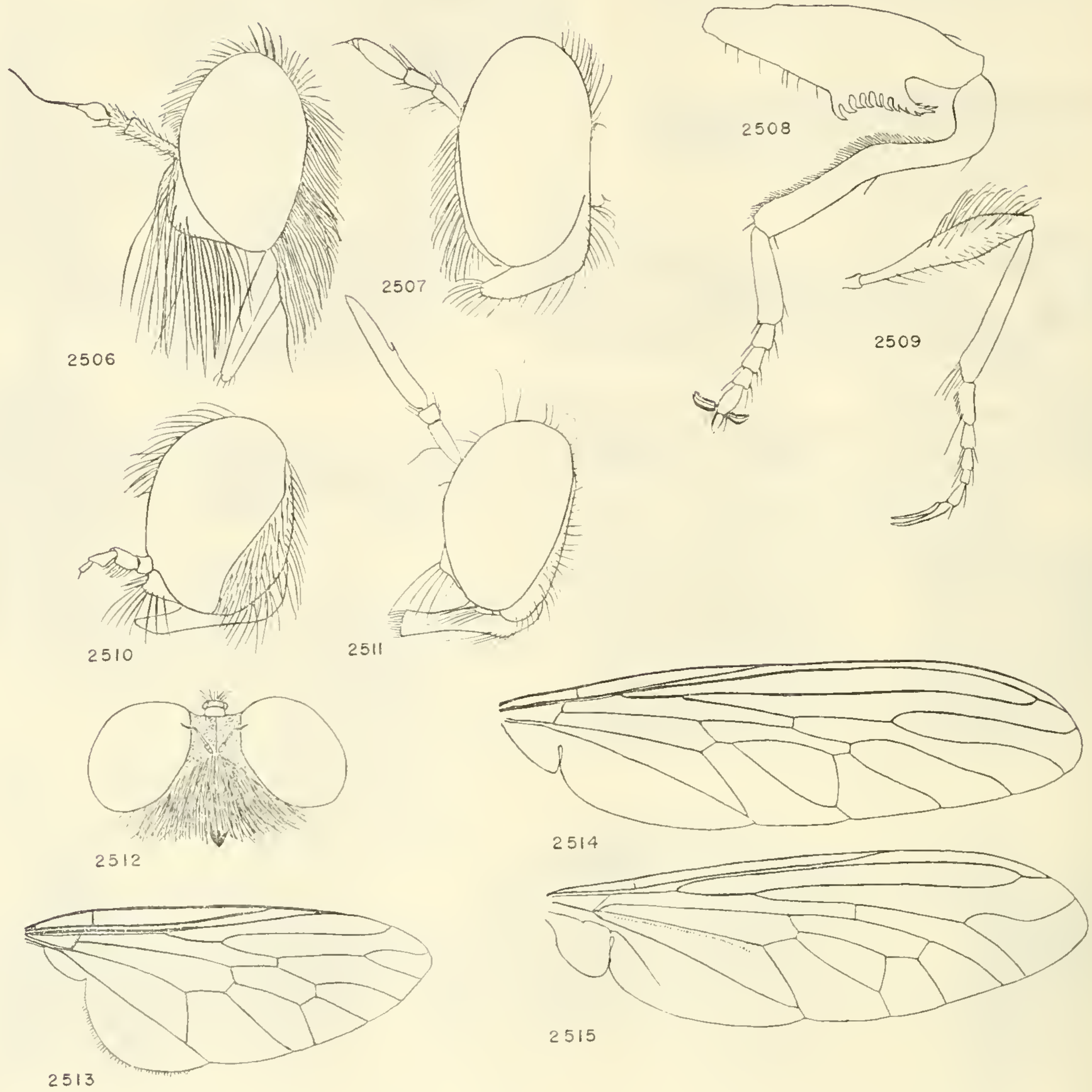
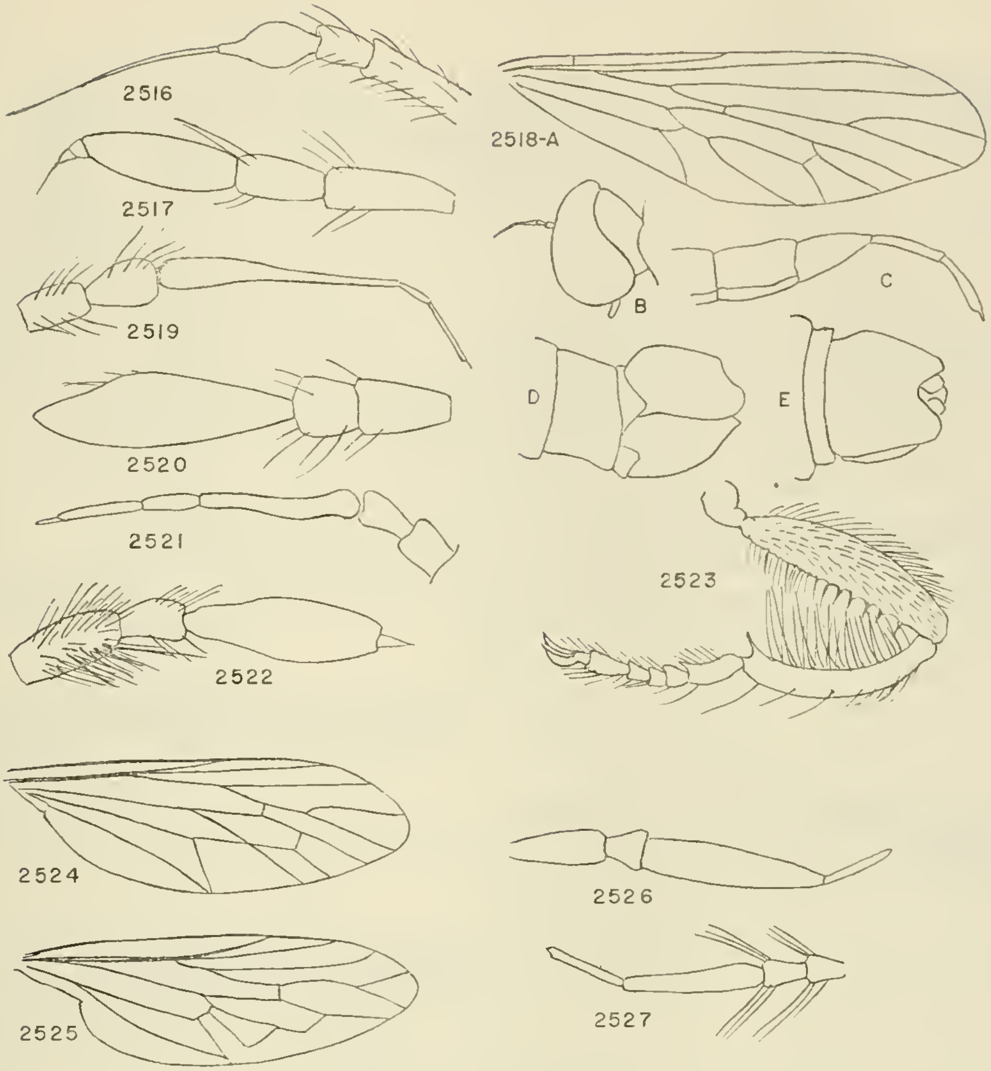


FIGURES 2506–2515.—After respective authors. 2506, *Eremisca vernalis* Zinovjeva. 2507, *Udenopogon inscriptus* Becker. 2508, *Ctenodontina pectinatipes* Enderlein. 2509, *Eremodromus noctivagus* Zimin. 2510, *Eremodromus noctivagus* Zimin. 2511, *Strombocodia elegans* Hermann. 2512, *Iranopogon brandti* Timon-David. 2513, *Iranopogon brandti* Timon-David. 2514, *Ctenodontina pectinatipes* Enderlein. 2515, *Cryptomerinx laphriicornis* Enderlein.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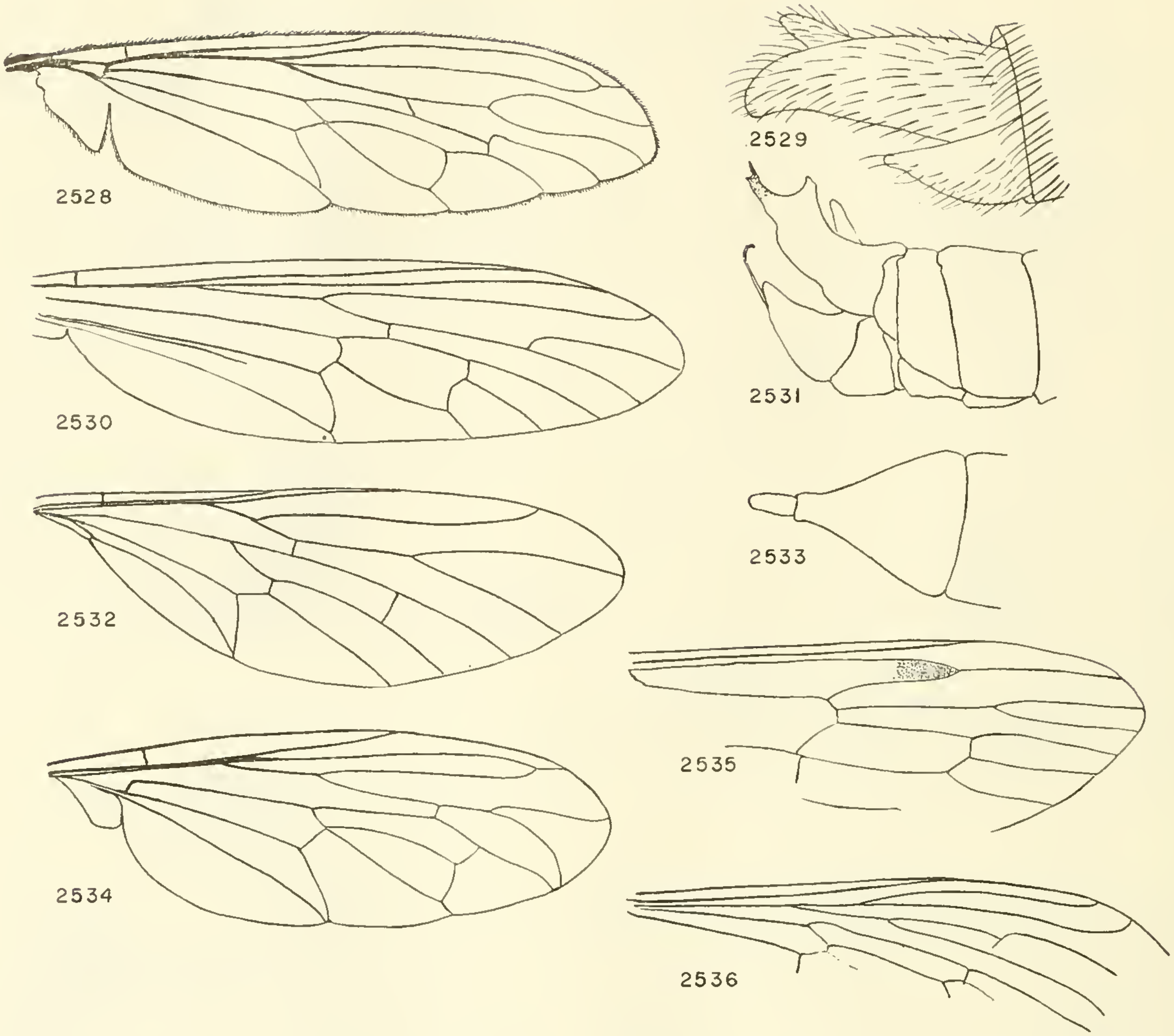
Figures 2516–2527.—After respective authors. 2516, *Eremisca vernalis* Zinovjeva. 2517, *Udenopogon inscriptus* Becker. 2518a–e, *Nerterhaptomenus morus* Hardy. 2519, *Iranopogon brandti* Timon-David. 2520, *Astylopogon catherinae* de Meijere. 2521, *Nerterhaptomenus morus* Hardy. 2522, *Cryptomerinx laphriicornis* Enderlein. 2523, *Udenopogon inscriptus* Becker. 2524, *Dasycyrton gibbosus* Philippi. 2525, *Dasypecus heteroneurus* Philippi. 2526, *Dasypecus heteroneurus* Philippi. 2527, *Dasycyrton gibbosus* Philippi.



FIGURES 2528–2536.—After respective authors. 2528, *Eremisca vernalis* Zinovjeva. 2529, *Eremisca vernalis* Zinovjeva. 2530, *Eremodromus noctivagus* Zimin. 2531, *Nigrasilus nitidifacies* Hine. 2532, *Astylopogon catherinae* de Meijere. 2533, *Nigrasilus nitidifacies* Hine. 2534, *Amathomyia persiana* Becker. 2535, *Asilopsis fusculus* Cockerell (fossil). 2536, *Stenocinclis anomala* Scudder (fossil).

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